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THE DRUIDS.

"Then God turned and gave them up to worship the host of Heaven."—Acts vii, 42.

Much has been written, and many a controversy waged, about the great stone monuments, temples, cromlechs, cairns, obelisks and tolmens, that stand in Britain and its isles. They are so like in form to some of those that rear their giant masses from the forests of Tartary and the plains of Arabia, to the jungles of Central America, that it is probable they had a like origin. They tell the faith of a people who were "scattered," of a nation who were "wanderers," and who, wherever they located, erected, according to their earliest customs, "standing images" as monuments of their belief, their traditions and their discoveries.

These standing images of Great Britain have been the most carefully studied. The contradictory statements, and the equally contradictory conclusions, place the student in the condition of a pendulum, between assertion and evidence; and if at last, in weariness, he "runs down," he finds in his bewilderment no relief from the restlessness of research. Very Athenians are the writers on this subject, for one says "one thing and one another." One gives the greatest of these remains—the well

known Stonehenge—to the Romans. Dr. Stukeley writes a book entitled 'Stonehenge Restored to the Druids,' in full faith in their Druidic origin. Ritson calls Stukeley a "ridiculous dreamer." One after another, antiquarians have measured and investigated; they have noted the positions of the stones; have theoretically restored the missing ones, and have formed and apparently proved the most contradictory conclusions. Among all, the weight of evidence is on the side of their having been erected—at, perhaps, different times—through the influence of a powerful and learned priesthood, known as Druidic.

The stones have an actual and visible existence; the priesthood lives in tradition, and the memory of their doubly mixed worship in the names of localities, in the festivals and in the odd customs which have descended from the earliest times. By their "doubly mixed worship" I mean the worship of Jehovah and of Baal, of the one God and of the host of heaven, as well as their union of civil and religious power. This last gave an authority to the priesthood over both "souls and bodies of men" which made them almost invincible. What written history there is, we gain chiefly from the Welsh Triads and from what Julius Cæsar has left in his journals. The Triads were later but probably not less reliable. They tell us that the worship of the Druids was not solely a worship of heathenism, although heathen rites and fearful cruelties were mingled with it. It was a religion of civilization and of intelligence. The priests were the cultivated class, and if they had one faith for themselves and another for the worshipers, it was only what the greatest church organization in the world has had: Faith for the priests, sight for the people. The God for the initiated, His personified attributes for those whose unenlightened natures craved a visible deity.

But it is the works of these great priests that I propose now to examine. Before any satisfactory conclusions can be reached, the various theories must be weighed and measured and compared with such facts as we have. Patience and perseverance must be brought to the task; the very mysteries must be struggled with in the same spirit that sustained the novices who ventured to be initiated in the hidden wisdom of this ancient

priesthood—the Chemarim of idolatrous Israel. They passed through darkness “in caves and caverns of the earth;” they groped in uncertainty, until at last, in the very abyss of despair, truth was evolved, and—relieved from the weight of doubt and error—the brave adventurer ascended joyfully to the full happiness of light and reward.

Among those who have sought the truth, the Rev. E. Duke has been the most signally recompensed. He has deduced a theory, tested it carefully and given the results in a book which reads like inspiration. His theory deals especially with the remains of Wiltshire, but is so thoroughly sustained that it is possible that it gives the clue to the elucidation of many more of these gigantic traces of a past civilization in all the lands where similar ruins are found. Before his theory can be appreciated, the reader must bear with a short description or review of some of the temples of which he speaks.

We will begin with Silbury, or Silbury Hill, situated in the County of Wilts, in the southern part of England. The meaning of the name is “great or marvelous hill.”

Of this hill Higgins says:

Silbury Hill is an artificial mound of such immense proportions and so deceitful in external appearance that I never could have believed its having stood upon so much ground had I not ascertained the fact by actual measurement. The learned Stukeley has in the description of this mound given reins to his fancy, which has so transported him beyond the region of truth, that he has stated “that some king was the founder of the temple of Abury (north of the hill), and that Silbury Hill was raised for his interment.” His opinion is always ingenious, and therefore I lay it before my readers.

This theory I will omit, and as I have only notes from Stukeley before me, I will quote the description from Higgins’ ‘Celtic Druids’ :

Silbury is a most astonishing collection of earth artificially raised, worthy of Abury. . . . It stands exactly south of Abury, and exactly between the extremities of the two avenues, which, in the form of a snake, form the approaches to the temple. . . . The circumference of the hill, or as near the base as possible, measured 2,027 feet ; the diameter at the top 120 feet ; the sloping height 316 feet, and the perpendicular height 170 feet ; but that part of our measurement which will occasion the most surprise is, that this artificial hill covers the space of five acres and thirty-four perches of land.

Higgins then says :

For what purpose this huge pile of earth was raised, appears to be beyond the reach of conjecture, but I think there can be no doubt it was one of the component parts of the temple at Abury, not a sepulchral mound raised over the bones and ashes of a king or Arch Druid.

In this description please note particularly that this mound is made of earth; this is an important element in Mr. Duke's theory. Immediately north of Silbury Hill, is the wonderful but well known and oft-described temple of Abury (Hebrew *Abiri*—potentes, or mighty ones). I will quote a part of a description of it, also through Higgins, from the 'History of Wiltshire,' by Sir R. Coalt Hoare:

The situation of Abury is finely chosen for its purpose, being the more elevated part of a plain, from which there is a descent every way. But as the religious work in Abury, though great in itself is but a part of the whole, the situation of the design is projected with great judgment, in a large plain four or five miles in diameter. The whole temple of Abury may be considered as a picture.

After long examination, Dr. Stukeley, from whom this is quoted by Sir R. C. Hoare, decided that the long lines of stone avenues represented a snake. He thought, "a snake transmitted through a circle. The head of the snake is carried up Hackpen Hill;" (*hac*—snake, *pen*—head. In Yorkshire snakes are yet called *hags*.) "The tail of the snake is conducted into the descending valley below Beckhampton. Thus our antiquity divides itself into three portions. The circle at Abury, the fore part of the snake leading toward Kennet; the hinder part leading toward Beckhampton—which I call avenues—to the great temple at Abury."

The temple, supposed to represent the body of the snake, is formed by a circular agger of earth, having its ditch within-side, contrary to the mode adopted in works of defense, and thereby proving it to be of a religious nature. The ramparts enclose an area of 1,400 feet in diameter, which on the edge nearest the ditch was set round with a row of rough, unhewn stones, and in the centre was ornamented with two circular temples. The space of ground enclosed within the vallum has been estimated by the Doctor at twenty-two acres. The outward circumvallation was computed at 4,800 feet. The number of stones that formed this outward circle was one hundred originally, of which, in A. D. 1722, there were eighteen standing and twenty-seven thrown down. Two concentric circles formed the temples, the outward in each consisting of thirty stones and the inward of twelve. The only difference which the Doctor could discover in these two temples was, that the one

towards the south had a central obelisk, and the one towards the north a cove consisting of three large stones, placed with an obtuse angle towards each other. The central obelisk seems to have existed in Stukeley's time, for he states its being of a circular form at the base, and of vast bulk, twenty-one feet long, eight feet nine inches in diameter, and, when standing, higher than the rest. He further adds, that "exactly in the southern end of the line that connects the two centres of the temples is an old stone with a hole wrought in it." (I omit all the theories in regard to the various uses of these stones, as some of them are entirely disproved, and of the others, any student can choose between them). A note appended to a part of the description states that

Dr. Stukeley remarks that the meridian line passed through the centre of the grand circle, and of Silbury Hill, and on making our observation and allowing for the variation of the compass, we find it still does the same.

The more particular descriptions are so interesting that it is difficult to know what to omit, but as this article cannot be illustrated by explanatory plates, I will go back to Hackpen, the head of the snake, on the summit of Overton hill. The head was represented by a circle; it was formed of two concentric ovals, the longest diameters being east and west.

Of this Overton hill the country people have a high notion from time immemorial. It was a few years ago crowned with a most beautiful temple of the Druids. They called it the Sanctuary. It had suffered a good deal when I (Stukeley) took the prospect of it with great fidelity in 1723. Then Farmer Green took most of the stones away, and in 1724 Farmer Griffin ploughed half of it up, but the vacancy of every stone was most obvious, the hollow being still left fresh. In the winter of the same year the rest were carried away and the ground ploughed over.

Stukeley greatly laments the destruction of this beautiful temple, which was of proportions to be understood by all. He then describes the part of the snake which he designates as the tail. He speaks first of several of the stones which were known of by the neighbors, but which had been taken away for different purposes, some used in building, some in a causeway, some broken to get rid of them. He was, however, able to trace the line of the Serpent Avenue (Beckhampton), and carefully describes it, telling the names of those who destroyed the great stones of which it was formed. At last he comes near the end and says:

Then it descends by the road to Cherill, till it comes to the Bath road, close to the Roman road, and there in a low valley it terminates near a fine group of barrows, under Cherill Hill, in the way to Oldbury Camp. This point, facing that group of barrows and looking up the hill, is a most solemn and awful place. A descent all the way from Longstone Cove, and directed to a descent farther down the Bath road, and where no less than five valleys meet, and in this very point only, you can see the temple on Overton Hill, on the south side of Silbury Hill. I am satisfied there was no temple or circle of stones at this end. I apprehend this end of the avenue grew narrower in imitation of the tail of a snake, and that one stone stood at the end by way of close.*

"This account," says Dr. R. C. Hoare, "must be our chief authority, for, excepting two of the stones which are supposed to form Longstone Cove, not one remains upright."

Of Longstone Cove, Dr. Stukeley says:

This Longstone Cove is composed of three stones, set upon the arc of a circle, regarding each other with an obtuse angle. This is set on the north side of the avenue, one of its stones forming the back of the cove. It stands midway, being on the fiftieth stone. It is placed on the highest ground over which the avenue passes.

The grand total of stones supposed to have been in the original work is 650; of which 400 form the avenue; 648 would probably be more correct as one of the avenue stones forms the back of the cove, the stones of which should therefore be given as *two* instead of three. The stone numbered as the tail of the snake is also doubtful. Of the total stones of the temple in Mr. Aubrey's time, A. D. 1663, only 73 were standing; in Dr. Stukeley's only 29; in Sir R. C. Hoare's, 1815, only 17. The delapidations have gone on rapidly since then; means of burning the stones have been found, so that ere long there will be but little left for antiquarians to theorize over. Perhaps their work is almost done.

Before leaving Abury I would suggest that the temple which stood on the body of the snake did not necessarily represent its body, nor was the snake necessarily transmitted through its circle. The temple may have represented something traveling on the snake. It was impossible to entirely separate Stukeley's description from his theories. He reflects thus upon this wonderful work:

This temple must have been the work of a great and learned people. The works evidence the genius of their founders. They have grandeur and symmetry in execution; in compass extensive, and in effect magnificent and agreeable. Never since creation was so magnificent an idea found in mortal minds as this stone hieroglyphic. The snake

*This statement has not been proved, the snake may have been partly represented, and ave been cut off abruptly.

is three miles long, in proper proportions, its sinuosity well represented in huge curves running contrary ways, conducted over elevations and depressions. The plan of Abury was the circle and the snake. The Egyptians add wings.—('Stonehenge Restored to the Druids,' p. 49.)

Of some of the other temples included by Mr. Duke, I have been unable to find descriptions in time to add them to this article. We will therefore consider Stonehenge, as in that he finds the most significance.

Different meanings are given for the word; "hanging stones" is generally accepted, but the one which best agrees with Mr. Duke is that which defines the Welsh name for Stonhenge—*Gwaith Emrys, or Emreis*—"the structure of the revolution." Mr. Duke does not seem to have noticed this meaning, or I may have failed to see that he did so, but its appropriateness will be evident, in fact, it adds greatly to his idea.

Here it will be well to note the three great works of which the Triads tell us: 1. The lifting of the stone of Ketti. 2. The building the work of Mmyrs. 3. The piling up the mount of assemblies.

In describing Stonehenge I will quote from Stukeley, Hoare and Higgins. On Salisbury plain are still standing 94 of the great stones which formed the "proudest singularity" (Stukeley) of all the Druidical temples of Britain. It is "surrounded by a ditch and slight agger of earth" (Hoare). The ditch being within the vallum distinguishes it, as this peculiarity does Abury, from a military work. "There is but one entrance into the arc; this faces the northeast, and is marked by a bank and ditch called the avenue. The first object which arrests one's attention is a large rude stone, called the 'Friar's Heel'; it is about 16 feet in height. We now enter the area of the works, having the bank and ditch on our right and left. Adjoining the agger, within the area, is a large prostrate stone . . . bearing the same mark of tools as the large uprights of the temple. This stone measures 21 feet 2 inches in length, of which 3 feet 6 inches being under ground, the height when upright was 17 feet 8 inches. The distance from the first stone in the avenue to second stone at the entrance of the area was about 100 feet, and the distance between that and the outside of the stone

circle nearly the same. There are two small stones within the vallum, one 9 feet high and the other 4."—(Hoare).

As the descriptions are of plates it is difficult to select such as will give a clear idea of the temple, but probably all our readers have a general knowledge of those grand ruins, standing in solemn majesty on Salisbury plain. It will only be necessary to give some measurements and statements before quoting Mr. Duke.

"The temple consists of two circles and two ovals. The outward circle, about 300 feet in circumference, is composed of huge upright stones bearing others over them, which form a kind of architrave." These are curiously mortised into the upright stones. "This circle consisted originally of 30 stones, of which 17 are still standing. They are about 13 feet high, and from 6 to 7 wide. The grandest part of the temple is the cell or sanctum. This inner temple represents two-thirds of a large oval and a concomitant small oval; as in the outward temple, we find a large and small circle. The large oval is formed of five pair of trilithons, or two large upright stones with a third laid over them." These trilithons rise gradually as they approach the altar, or the stone so-called, measuring from 16 feet to 21 feet 6 inches. "The inner oval consisted, according to Stukeley, of 19 stones; they are smoother and smaller than those of the inner circle of small stones, and incline to the pyramidal form. One stone deserves notice from having a groove cut all down it, and it bevels off almost to an angle on the inner side. The inside diameter of this whole building is about 100 feet" (the number 100 was a favorite one with these builders, as also the number 4, which was to the Druids a mystic number); "the width of the entrance into the cell from the trilithons on each side is 43 feet."—Hoare.

They that were within, when it was in perfection, would see a most notable effect produced by the elliptical figure, included in a central corona, having the large hemisphere of the heaven for its covering. . . . The walk between the two circles, which is three hundred feet in circumference, is very noble and delightful. . . . The intent of the founders of Stonehenge was to set the entrance full northeast, being the farthest elongation of our celestial luminary northward.—(Stukeley, in 'Stonehenge Restored to the Druids.')

He also says the meridian line passes directly through the

Cursus, and that by calculation on the variation of the compass he ascribes the building to 460 B. C.

The stones used are not all alike. Some of them are of a kind called Sarsen, which, Dr. Stukely says, is a Phoenician word and means rock: Their immense size and weight has been the cause of another set of theories in regard to their transportation. One of the stones is said to weigh seventy tons, and to move such stones requires a mixture of intelligence with strength that can only be obtained by the employment of a number of human beings. Reason is the strongest mechanical power. It was brought to bear on the transportation of what is said to be the heaviest stone ever moved, that upon which stands the equestrian statute of Peter the Great, in St. Petersburg. Several thousand men were harnessed to the stone; the king and his court were present; banners were waved and martial music directed the movements; one great combined movement raised the end of the stone upon a roller and success was assured. "Now," says a writer in *Harper's*, who describes this, "if we add to such power as this the animation of that religious faith that can remove mountains, the building of the Stonehenge and other great temples ceases to be a mystery." The same writer says that an antiquarian who visited the place with Emerson, "divided the stones into astronomical and sacrificial, and placing the philosopher upon one of the latter, pointed him to an astronomical, and bade him notice that its top ranged with the sky line, which being conceded he stated that at the summer solstice the sun rises exactly over the top of that stone, and at the Druidical Temple at Abury there is a stone in the same relative position."

After some comparison of Stonehenge with a "very similar stone temple in the heart of a forest discovered in Tartary," he says:

The stone, sixteen feet high, and about two hundred yards from the temple, called the Friar's Heel, is not only set exactly at that point, toward the northeast, where the sun rises at the summer solstice exactly over its top, but has been set in a place where the ground has been scooped so as to bring its top, as seen from the altar, precisely against the horizon. It is thus plainly an astronomical stone. Every year people go out on the twenty-first of June to see the sunrise above this stone, and that it does with absolute exactness admits now of no question.

That the builders of these temples worshipped the heavenly bodies is generally conceded. Stukeley's researches show they revered the circle and the oval, and that in some way the serpent was connected with their religious observances, and that in the barrows surrounding the temples, those who were buried were placed with their heads to the north.

A philosopher and astronomer, by the name of Waltire, thought this structure was erected for making observations on the heavenly bodies, and that the surrounding tumuli or barrows accurately represented the situation and magnitude of the fixed stars, forming a complete and perfect planisphere. He thought he traced 1,500; he also thought some of the barrows registered certain eclipses, and that the trilithons are registers of the transits of Mercury and Venus. He seems to have a glimpse of the grand theory of Mr. Duke, which combines all the astronomical knowledge that has been conceded to these ancient philosophers.

The outline of this theory can be given in a few words. Mr. Duke considers that this system of Wiltshire Temples represents a gigantic orrery, which includes the sun and moon and the planets then known, all of which were supposed to revolve around the earth. He also discovered the magnificent belief in the Magnus Annus, that great year of years which would restore the heavenly orbs to their original starting point, and during which the Mundane Egg would arrive at perfection and burst into new beauty and true life. He calls Stonehenge the Temple of Saturn, for reasons which are faintly shadowed forth in traditions which I have found wherever I have discovered any especial worship of Saturn as planet or as god. I will give some of them before quoting Mr. Duke's own words. Saturn is familiar to us mythologically as a son of Cœlus (the heaven) as father of Time, and represented as an old man with a scythe, and with a circle formed of a serpent holding his tail in his mouth, and who devoured his children (the years) as soon as they were born. This Saturn, with the strange glimpses of truth that make mythology a history of religious thought, reigned during a typical golden age, when liberty was proclaimed on earth. All this was represented in the Roman Sat-

urnalia, a feast also observed by the Druids, and when priests made their offerings with uncovered heads.

"Every thirtieth year," says John Smith, in his 'Gallic Antiquities,' "the Druids held a festival in honor of Saturn when he entered the constellation of Taurus."

Saturn was also known as the "Sabbath Star" of Israel, and the Canaanites considered that the spirit of the planet Saturn dwelt in their hideous conception of Moloch.

In Macrobius (quoted by Stukeley in 'Stonehenge Restored to the Druids,' p 39) mention is made of a famous round temple in Thrace, which, from the description, seems something like our Stonehenge, it was sacred to Sabazius, which may be a corruption of Sabbath. When the rites of Bacchus were performed they called Evohe Sabbai, undoubtedly Jehovah Sabbath.

Saturn in Hebrew is Sabbatei, and means *resting*; in Arabic it is Refan, also *resting*; in Coptic, Refan or Remphan, *restoring*, which reminds us of the verse from which the heading of this article is taken: "Then God gave them up to worship the host of heaven. Yea, ye took up the Tabernacle of Moloch, and the star of your god Remphan."

In Mazzaroth the following passage bears upon the subject, as it gives the order in which the planets composing this stone orrery were probably discovered (Third Part, p. 2):

If man was created when the sun was quitting Leo for Virgo, *Mars*, if in Aries would be very bright, and its motion soonest perceptible, the first luminary discovered to be a planet. If *Mercury* were in Virgo, it would be perceptible for a while in the evening twilight and then disappearing, prove itself to be a planet. *Jupiter* in Saggitarius would be splendid in the midnight sky. *Venus* in Libra towards the morning, and *Saturn* (Sabbatei, the star of the rest), perhaps first discovered near Jupiter in the midnight on the Sabbath, distinguished as a planet by its pale orb. These signs are called in astrological tradition the "houses of the planets." If they were first observed in them, a reason for this may be given for which none other has ever been alleged. The succession of the planetary names of the days of the week may be accounted for by the planets having first been recognized in that order.

In a note on Leo, it is stated from Macrobius that the Egyptian astronomers thought that at the creation, the sun rose in Leo and the moon in Cancer. Julius Africanus gives the same testimony.

According to Herschell "the surest and best characteristic of a well founded induction is when verifications of it spring up, as it were spontaneously, from quarters where they might be least expected, or from those which were considered hostile.

Evidence of this kind is irresistible." And such evidence springs up on every side of this subject, so that the wonder grows that we have not always known and believed what it now seems impossible to doubt.

Who but a people who, in their national childhood, knew Jehovah as their King and His revelations as their household words, who turned reverently to the orbs of heaven as His teachers to them of signs and seasons and days and years, could have conceived of a work like this? Who but such a people, even though they had perverted their early faith and made gods of the heavenly hosts, whose order and regularity of movement almost asserted a divinity—who but they could have impressed every nation with records of the truth, and reared such monuments as those of Wiltshire to tell the story of their faith, and the reason of their dispersion? "Oh Israel, thou hast destroyed thyself—return unto the Lord thy God, for thou hast fallen by their iniquity." "Israel hath increased the altars and made standing images, . . . hath forgotton his Maker, and builded temples, and . . . worshipped the host of heaven."

But this may be called "assertion." Perhaps Mr. Duke's own words may give us "evidence." He says:

The ancients held that at the close of an immense period of years, all the heavenly bodies would arrive at the same place from which they started. This doctrine is called the Platonic Cycle, though not invented by Plato, but adopted by him. This is synchronous with the precession of the equinoxes described by Higgins ('Celtic Druids,' p. 149). It is certain the ancients observed this precession or recession of the equinoxes, and considered that in process of time all the heavenly bodies would revert to their original stations and a new world begin. Macrobius fixes its period at 15,000 years; some say 49,000; more modern astronomers say 24,800, 25,816, 25,920. My opinion—that this majestic and stationary orrery was denotive of this cycle of cycles—is borne out by reference to the Temple of Saturn, the modern Stonehenge. Here, in the centre, is an area beautifully assuming the form of an egg, and caused by the ecliptical location of the seven trilithons, the representations of the planets. This, with Smith, I regard as denotive of the *ovum mundi* of universal nature.

Smith did not recognize Stonehenge as the Temple of Saturn. But how the truth unfolds! Here within the only one of the series of temples in which it could be placed, in the innermost recess of the Temple of Saturn, whose orbit was held to include all time and space, surrounded by the representatives of the planets, was mystically placed the Mundane Egg, the germ of universal nature, receiving during the term of this cycle of cycles, the daily influence of the rays of the Sun, until the lengthened period of incubation passed, the old world shall cease to exist, and the new, spring into being. A more beautiful allegory, a more expressive emblem was never devised by mind of man or practically illustrated by the operation of his hand.

The Druids.

In the great orrery or terrestrial diagram, a tumulus of earth on Silbury Hill represents the Earth. This seems not to have been a temple; this circumstance, that Silbury Hill does not develop as a religious temple leaves it admirably adapted as the Earth, the centre of this mundane system. If I leave this representation of the Earth, and proceed northward, I arrive at two stone circular temples, surrounded by a circle of one hundred stones, and the whole enclosed in a fosse; to my surprise I find this called Abury (Hebrew, *Abiri*—potentes, or the mighty ones) evidently allusive to these two temples as representations of the Sun and Moon, the chief deities in the planetary worship. I find these temples set in varied forms, and in their several details referable to astronomical cycles. Temple of the Sun contains the cycles of days of month, months of year, and a single stone to denote the entire year. Temple of the Moon, the cycles of days of month, months of year, and of early tripartite division of seasons.

The southern temple is that of the Sun, for a stone (stands in it) evidently a gnomon, from its exact location to take observations of the rise of the Sun, at the winter solstice. Stonehenge has the same for the summer solstice. Now connect with Silbury Hill these temples bounded by their circle of one hundred stones. They are located on the central portion of an immense curved serpent, whose bow is towards the south, and whose half surrounds Silbury Hill. Here I, in this serpent, recognize a portion of the ecliptic. The ancients represent the ecliptic as a serpent; the Sun and Moon ranging around the Earth as the centre of the universe.

Three miles south of the Earth I find the Temple of Mercury. Near it is Knap Hill, which suggests Egyptian Kneph—Mercury.

Four miles north of the Earth I find another temple, which study induces me to ascribe to Venus.

Three miles from Mercury I find an immense mound, supposed to be a religious temple, traditionally ascribed to Mars, situated at Marsden (*mars* and *den*—a cave or residence).

Pursuing my pilgrimage on the meridional line three miles, I find another temple, which I assign to Jupiter; from which, four miles on the meridional line to a tumulus of observation, I see the temples of Jupiter and Saturn. Three miles down a slope brings me to Saturn—Stonehenge. This temple fronts the northeast, and is erected with reference to the summer solstice.

From the stones I learn they speak the cycle of the years of Saturn, or the emblem of the race of man, thirty stones on thirty uprights; the cycle of the planets, and the Metonic cycle of nineteen years.

That the so-called "altar stone" could not have been used for such a purpose, from the fact that it reduces to powder under the action of fire. It is a station of astronomical observation. A man stationed on it on the day of the summer solstice could see the sun rise behind the apex of the gnomon in the distance, and then gloriously proceed on its way.

For the intensely interesting astronomical description which follows, I must refer the reader to Mr. Duke's book, 'The Druidical Remains of the County of Wilts,' by the Rev. E. Duke. London, 1846.

It was in my possession only a few hours—only long enough to gain these few suggestions of its interest. After summing up the wonders and developments of his discoveries he says:

Unite the whole, and find that great astronomical scheme typifying the Magnus Annus, the Cycle of the World.

Before leaving the subject it will not be irrelevant to propose

an explanation, suggested by his theory, of the Egyptian hieroglyphic—the winged globe and serpents. Among its meanings—for in both mysteries and prophecies there are many—may not the first and simplest have been a representation of the Sun flying on its course, with outspread wings, while its circular path was represented by two serpents, the better to explain its northern and southern flight.

This emblem, Dr. Stukeley thinks, was represented at Abury, although he gives a very different signification. His may be correct, but that the Egyptian emblem primarily meant the Sun “rejoicing as a strong man to run his course,” is proved by their fable of the Phœnix, which, after a flight of six hundred and fifty-one years, was burned to ashes in the concentrated rays of the Sun, represented on the roof of one of their temples. An egg was developed from its ashes, and a new bird rushes on its tireless round. This was the planet Mercury and its transit over the Sun’s disc, where it disappeared, as if consumed by its fiery heat, reappearing again after its passage as if in renewed life.

These transits Waltire supposed were recorded at Stonehenge, adding another to the “verifications”—for the wisdom of the Egyptians, as well as their idolatries, as one of the strong influences in the formation of the Israelitish national character.

E. BEDELL BENJAMIN.

[*To be Continued.*]

THE MEASURES AND WEIGHTS MENTIONED IN THE BIBLE, IN CONNECTION WITH STRUCTURES, WORSHIP AND NARRATIVES.

In proposing to myself to do this work, I am encouraged mainly by my knowledge of the original languages of the Bible, as well as with their dialects. But this is not the only qualification necessary for this work. A facile handling of mathematics is equally as necessary for this work, in which, however, I am regretfully conscious to be lacking. Yet the work must be done, and in a way free, on the one hand, from those pre-conceived notions which are engendered so frequently by an undue reverence for traditional translations and interpretations, and, on the other hand, free also from fond fancies which one may become inclined to interpret rather into the original than interpret the sound sense from them. The Christianly reverent spirit of both the contributors and readers of this Magazine, the high scientific attainments of some of them, and the free spirit which pervades the valuable articles in it, encourage me to put my work on record in it, fondly hoping for the needed mathematical and other help from its readers and contributors. Not claiming any arrogant infallibility, I desire, on the contrary, and solicit just criticism as an aid in this work, so that it may ultimate in, at least, an approach to the truth, which I and others are, I trust, always in quest of.

I propose to take up every place in the Bible where direct statements or passing illusions are made of weights and measures, and so far as necessary discuss the objects which are weighed and measured. The latter work, although not altogether belonging to the general object of this Magazine, is yet necessary in order to correct frequent current mistranslations and interpretations, which may as well find here as anywhere else a recording resting place.

(I.) Noah's Ark.—The first mention of measures in the Bible we find in connection with Noah's Ark. (1.) The name of

this structure in the original is *TaeBoH*,* and is found in two places only in the Old Testament, viz: here and in connection with the exposing of the infant Moses on the waters of the Nile. (Exodus ii, 3-5.) There is no Hebrew word as a verb from which this noun might be derived, nor is there a verb which might be derived from this noun. From its use in the two narratives the word evidently denotes a hollow, covered vessel, designed for the safe keeping of living beings against damage by water, on which it is made to float. That this Ark of Noah's was not an ordinary open ship is evident from (*a*). That neither one of the Hebrew words for ship (which are *SFI;N;H;A;N;I*, or *A;N;I;H;†* and *TS;I*) are used here, and (*b*) that special provision is here made for a top light, which admitted air also, and which implies, of course, that the structure was covered by a roof, and lastly (*c*), that it had a side door and hence no open deck. (Compare Genesis vi, 16 and viii, 6.) The word in vi, 16, *TS_{on}H_aR*, which specifies the arrangement for light and air, gave translators and interpreters most trouble. This word occurs in the singular, only this one time in the Old Testament, while it frequently occurs in the dual number *TS_oH_aR_oI_iM*, in which number it denotes the light of the sun at high noon, when he stands directly over our heads. This established meaning in the dual number should have been sufficient to lead Bible scholars to take the word in the singular as denoting simply light that comes from the top.

Now, let the reader bear in mind the following points: (*1.*) That Noah made a window in the Ark, which he used for observing the state of things outside of it, (viii, 6), and that this window was not mentioned in his specifications. The Hebrew word for this window is *HH_aLV_{ou}N*, and is used for an opening made in a wall of a house for the purposes of light and out-

*I shall write Hebrew words in capital consonants, as they are in the original, and the vowels beneath in small letters. I prefer to use the original Hebrew word for this vessel, and would rather transcribe than translate it, because no adequate word in the English offers itself for the purpose. The consonantal root T. B. of this word is seen in the Greek "Tibae," and in the Teutonic words "boot," "boat" and "bateau."

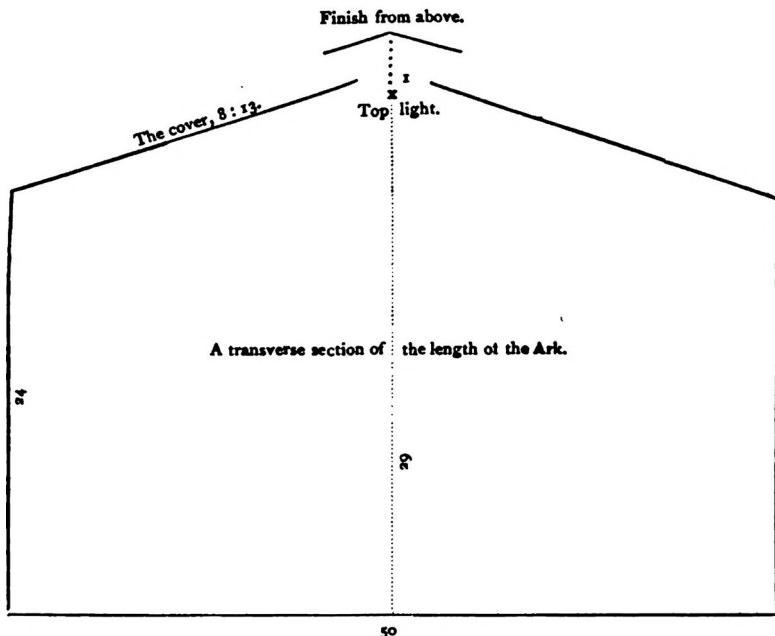
†The original Hebrew had no vowels, and as such letters as A and I are consonants, and can be articulated then only when a vowel is added to them, Ao is, therefore, equivalent to our O, and Io equals yo, etc., etc.

look. (2.) That Noah made a covering on the Ark, which was also not in specifications. (viii, 13). (3.) The indications of the Ark were not merely to protect a large number of animals from drowning, but also to shelter them from a forty days' and nights' rain of unprecedented severity, which, had it been allowed to fall into the Ark, would have drowned both them and the Noah family in the very Ark which was meant for their safety. Then, there was need also of keeping an enormous amount of food for the animals from spoiling by the rain. The room for both animals and their food offered no difficulty to Noah, and neither does it now to us, who know of the Great Eastern's dimensions, and its perfect safety even on the stormy Atlantic. The great difficulty which did present itself to Noah must have been to provide light, which must have been indispensable for a proper attendance upon the animals, and also sufficient air for proper ventilation, and to do this without letting the rain come in. Bearing these points in mind, the reader will see from the following translation and short comments how nicely all the indications were met by the divine specifications of the structure:

(Genesis vi, 14-16.) Make unto thee a Teva of Cypress planks. Make the Teva in stalls, and rosin it from the inside and outside with rosin. (15) And these are (the dimensions) that thou shalt make it: three hundred A_aM_oH the length of the Teva, fifty A_aM_oH its width, and thirty A_aM_oH its height (16). A top-light shalt thou make for the Teva, and at an A_aM_oH from above it (the top-light) thou shalt finish it (the Teva); and the door of the Teva thou shalt put in the side of it, lowermost ones, second ones and third ones shalt thou make it.

COMMENTS.—The Cypress wood and rosin were excellent means of disinfection. For the rain to shed well, the roof, or cover, of which we read in viii., 13, must, of course, have been a slanting one. But what was the pitch? Answer.—A Teva had a roof, and this Teva had to have a slanting one. The 30 A_aM_oH height must therefore refer to the perpendicular from bottom to the comb. But of this height 1 A_aM_oH was to go off for the covering up of the top-light, so that the main roof

stopped at the level of 29 A_aM_oH of the perpendicular, and left an opening, which was the top-light, the width of which is not specified. Then this opening was covered by the remaining part of the roof, only raised 1 A_aM_oH from the level of the opening, and having the slanting sides descending over the main roof down far enough to prevent the washing of the rain backwards into the Teva. The distance between the overlapping slants of the two roofs is, of course, determined by the specified 1 A_aM_oH height of the upper roof. This arrangement must have met all the indications of light and air, since the opening was the whole length of the Teva, viz.: 300 A_aM_oH, while its width was left to the judgment of the builders. The angle, however, which the inclines of the main roof made with the walls of the Teva would have to be determined by the height of these walls, which were not 30 A_aM_oH, since the specifications speak of finishing the Teva 1 A_aM_oH from above. Now, the respective heights of the specified three tiers of stalls were not specified, but were left to the good judgment of Noah. Let us, therefore, assume, merely for the sake of illustration, that Noah divided the 30 A_aM_oH height of the Teva in five parts, and allowed four parts, 24 A_aM_oH, for the three tiers, and also for a deck with bulwarks; then there would have been left 6 A_aM_oH for the roof. Of these Noah could have taken 5 A_aM_oH for the perpendicular side of the rectangular triangle, and 25 A_aM_oH (half the width of the Teva) for the horizontal side of the same, and these sides would have determined for him the incline of the hypotenuse (the slant) and its angle with the wall. Then, having determined upon where to stop the roof for the top-light, he could have calculated the proportions of the upper roof. The accompanying figure will show the reader what I have endeavored to explain.



I cannot forbear calling the reader's attention to the remarkable words in Genesis vii, 16: "And Yahooh (English, Jehovah) closed up in his (Noah's) stead." Noah was not on the outside to make the door water-tight. The righteous master mechanic was safely secured by his divine teacher. What analogy is here with the closing up of the Great Pyramid? Did Noah know something of what we call geometry? Did he know anything of the law of the hypotenuse, the so-called forty-seventh of Euclid? Let better mathematicians than I am answer. I am only a linguist and stand good for my work only, which is, not to add or take away from what "thus it is written."

(II.) The cubit, the Hebrew *A_aM_oH*.—In all languages we find nouns derived from verbs, and verbs from nouns. The question is useless as to which was first conceived by the human mind; it is, and ever was capable of conceiving and naming the one as well as the other. The Hebrew word *A_aM_oH*, or as it is traditionally and correctly pointed to be pronounced *A_aMM_oH*, is usually derived by lexicographers from a supposed verbal root

of the two letters A M, to which they give the supposed meaning of "gathering-in-one." And since this A_aM_oH is applied in Hebrew to a perpendicular standing on a horizontal, therefore, it is said, it applies to the elbow joint, and then to the forearm as a measure, hence the Latin *cubitus*. But there is no such verb-root A M in any semitic, at least not in the Hebrew language. We find, however, that the two lettered word AM, when traditionally pronounced A_aeM, means "mother." And again we find that when an H is added to AM and traditionally pronounced A_oM_oH it means then "female servant." And again, when these last three consonants are traditionally pronounced A_{oo}M_oH, then it means "nation." Now, it does not strike me as probable that all these diverse ideas of "gathering-in-one," "ell" (cubit), "mother," "female servant" and "nation" should be derived from that one root "AM." It is my linguistic conviction, growing out from comparing words in some twelve different Semitic and Aryan languages, that the fond notion, entertained yet by some, that the Hebrew is a primitive language is not true. That all languages sprung from one primitive one is a conviction which I share with all extensive linguists, and so far confirms my faith in part of the sacred story about the unity of language among the descendants of Noah. But as to that part of the story which refers to the origin of the diversity of languages, I think linguists do not rightfully consider it. They proceed in their investigation on the assumption that that diversity originated from normal physiological and psychological laws, and in this way account for the permutations of some sounds and the suppression of others in different languages and dialects. They speak of Euphony and Cakophony as normalities, where there is in reality an actual inability to pronounce certain sounds. Thus the Greek is actually unable to pronounce the sh sound, and he can only pronounce the s sound; the present English (not the Scotch) cannot pronounce the gutteral ch; the Sclav cannot pronounce the th sound; the Chinese cannot pronounce the r sound, etc., etc., etc. Now, all these inabilitys are not physiologically normal but pathologically abnormal. And here is, it seems to me, the key by which to unlock the mystery of the diversity of all languages,

which are, after all, derivable from one primitive one. It is true that when a pathological state is once established in an organism, it then proceeds to grow and develop according to certain laws of its own, and the propagation of other pathological organisms from it is not hindered. But all these do not make a pathology a physiology. It cannot be successfully maintained that a pathological state is merely an evolution of an opposite physiological state; such a genesis cannot be shown and the law of "like produces like" must be true. But how, then, does ever a pathological state begin? The only answer to this is: By a catastrophe from without and not by an evolution from within. This I take to be as true in language as it is in all living organisms. There must, therefore, I conclude, have been a fatal catastrophe in the history of the human organism, which produced a pathological state in both the human organs of speech and hearing. And since we know that fright may produce such a sudden shock upon the human nervous system as to cause total speechlessness, hence the supposition is natural that fright was the cause of the diversity of languages, in which we can yet trace their unity; and the sacred story about the confusion of languages points in that direction. It remains yet for some competent hand to write "The Pathology of Human Languages, Based Upon the Pathology of Living Organisms." But the Hebrew language, even if it should have been the primitive one, was no exception to that catastrophic event recorded in the very Hebrew scriptures. I, therefore, conclude that the roots of many Hebrew words are to be found purer and fuller in other languages, Aryan as well as Semitic.

It is thus that I explain to myself the origin of the Hebrew A_{ae}M, which means "mother." I regard it as a pathological result of the primitive root, consisting of the Semitic Ain and Mem, which means "nation." That Ain is a compound of "G" hard and HH—ch German. None of the Semitic surviving tribes, except the Arabs, have preserved its primitive pronunciation, and the Aryan tribes have substituted for it the F sound, in the same way as the English write "cough," and pronounce the word "couf". The present Jews (except the Spanish and Portuguese, who make of it an absurd nasal sound) flatten the

Ain to a mere Alef. All these corruptions are not physiological but pathological. Of this GHHM, arose the FM root of the Italian tribes, from which we have *femina*, *fatula*, *famulus*, and *familia*. And this formation of the idea and word *familia* from *femina*, or from its primitive root FM, which means "female servant," finds its counterpart in Hebrew usage, where from the word Sh_iHH_oH, which means also "female servant," is from the idea and word M_iShP_oHH_oH, meaning "family." There came a time when the woman became no longer the wife of the one husband, but the mere slave and breeder of progeny, which was called after her. Some tribe of the sons of Eber were unable to pronounce the Ain (G+HH) sound, and flattened it down to a mere Alef sound, and thus became the Hebrew A_aeM—"mother." Then adding an H and changing the vowel of the A and giving a vowel to the M, the word A_aM_oH was found, which means "female servant." And again changing the vowel of the A there was formed the A_{oo}M_oH, which means "nation." I conclude, therefore, that the two-lettered primitive root AM has nothing to do with the word A_aM_oh, which means "ell" or "cubit." The root of this word is not to be found in the Semitic, but in the Aryan languages, viz.: in the Greek "Oolenæ," and in the Latin "ulna," the root of which is OLN. Now the reader will remember that sounds pronounced by the same organs are permuted one for another in different, and even in the same, languages, and that the same is the case with the so-called liquid sounds LMN, and also R when it is rolled with the anterior part of the tongue, and not pronounced gutturally, in the Parisian fashion. The sounds B, V, M, P, F, being labials and labio-dentals, are permuted. Hence we find in the Chaldee ALV for OLN, from which is formed the word A_aLV_oH, by which the Hebrew A_aM_oH is translated in Isaiah vi., 4. And the Hebrew root of this last word is AMM, which last two Ms are the result first of the permutation of N into M, and then of assimilation and absorption of this M into the L, which is also permuted into M, so that the primitive OLN or A_aLN became in Hebrew A_aMM, and then A_aM. The evidence for this is, (1) in the traditional pronunciation of A_aM_oH as A_aMM_oH. (The H is only the sign of the

feminine, like the “æ” in the Greek “Oolenæ,” and the “a” in the Latin “ulna.”) The persistency of doubling the consonant of this word in other Aryan languages is remarkable, so in Anglo-Saxon, “Eln;” Dutch, “Ell;” and “Elle;” German, “Elle,” “Elna;” Gothic, “Aleina;” Icelandic, “Alin;” Danish, “Alen;” Swedish, “Aln.” The variety of vowels inserted between these two consonants in some of these languages has nothing to do with the root. (2.) Another remarkable evidence that this Hebrew A_aM_oH is from the root ALN, or OLN, and not from the usually theorized root AM, is seen in the fact that in the eighty-three times when this word occurs in the Old Testament in the plural it is, without a single exception, written $A_aMV_{ou}Th$, while the plural of $A_{ae}M$ (mother) is invariably written $A_{ee}M_oTh$ without a V; and so, too, the plural of A_oM_oH (female servant) is, with only two exceptions, both in the same narrative (II. Samuel vi, 20-22), written without a V. This persistent V, I regard as a permutation of the second M in A_aMM_oH , which is assimilated and absorbed in the singular, while in the plural of $A_{ee}M_{ou}Th$ (mothers), and $A_aMH_{ou}Th$ (female servants), there was no second M in the root to permute. I know right well that the crowd of Hebrew grammarians regard this presence or absence of the V in the plural as a mere matter of orthographic variety, but so much the worse for these grammarians. I presume also, I must further say here, that some of our American professors of Hebrew would smile quite contemptuously on reading this my original investigation, and would self-complacently knock it all into a pi by that unanswerable argument of old. Why did not any of *our* scribes say such a thing before? But this does not affect me, since I know that there is no ancient Hebrew literature outside of the Old Testament, and I feel myself as much authorized to construct a grammar and lexicon of the Hebrew from this, as any one of those who not only followed each other, but even stepped in the very footprints of each other. *Original* Hebraists are very few yet in this country, and these will perhaps appreciate my labors in these and other writings. But *ad rem*. The diversity of languages results not only from pathological permutations, and also transposition of letters in words, but also from the appli-

cation of one and the same word to different parts of the animal and human body. So do the Latin and Greek apply the root BRC_p in *Brachium* both to the elbow joint and to the forearm, while the Hebrew applies it to the knee exclusively, viz: B_eReCh. The Greek and Latin use the root OM to denote shoulder and also entire upper extremity, in the words *hoomos*, *humerus* (also Teutonic "arm") while the Hebrew applies it to the forearm alone, in the word A_aM_oH, derived from OLN, and has a separate word, I_hCh_eM, for shoulder (from which the German "schenkel" and English "shank") and another, ZR_oGH_H_aH for "arm." Were it not that the Hebrew A_aM_oH is invariably translated "Pæchos" in Greek, the measure of which we know more or less, we would not know whether the word meant the length of the entire upper extremity, or only of the forearm and hand, and this Greek "Pæchos" is related to the Hebrew TeF_aHH, commonly translated "span," and which I shall examine when I come to discuss this measure and its relation to the A_aM_oH. It remains for me yet to refer the reader of this paper to certain passages in the Old Testament to which Hebrew lexicographers refer in connection with this word A_aM_oH:

(1.) In 2 Samuel, viii., 1, is neither a place called Metheg Ammeh, nor does it mean "the bridle of Ammah," as given in the margin of the common version. The second word is simply wrong vowelled by the Jewish authorities, and should be vowelled A_{oo}M_oH and read "OOmoh." There is a keen thrust against the Philistines in this verse, by implying that they were governed like asses by a bit in the mouth, according to the saying in Proverbs xxvi., 3, "A switch for the horse (whom the true Oriental guides by a mere string in the mouth) a bit for (the stubborn) ass, and a rod for the back of fools." The entire passage in Samuel reads thus: "And it became after this, that David smote the Philistines and humiliated them; and David took the bit of the nation (A_{oo}M_oH) from the hand of the Philistines;" i. e., took the reins of the government from their hands.

(2.) In Deuteronomy, iii, 11, "the A_oMM_oH of a man" does not refer to any exact measure, but to the approximative

domestic measure from the elbow to the longest, or some other finger.

(3.) In Isaiah, vi, 4, "the A_aMVouTh of the thresholds" means the posts of the door openings as they are let into the sockets of the thresholds, as the forearm is in the elbow joint. In a similar way, but using another part of the human body, does the English architect speak of the "jambs" of a door or window from the French "jambe"—a leg, a foot.

In concluding this paper I beg the reader to pardon its lengthiness and perhaps resultlessness, since all I have said did not bring us the knowledge of the true length of the A_aM_oH = cubit = ell. It frequently happens that we find something we did not set out for when we search thoroughly and honestly for something else. Most frequently did this happen to me when searching in that wonderful store of antiquity, our dear old Bible.

EPH. M. EPSTEIN, M. D.

Vermillion, D. T., February 7, 1885.

THE ALTAR AND PILLAR TO JEHOVAH.

IX.

The reader is requested to bear in mind that the object of this first division of our subject, "The Altar to Jehovah," is simply to show that the Great Pyramid was truly an altar—in its battlemented condition an altar of self-sacrifice, and in its finished or tombic condition a memorial altar, or altar of witness—and that whatever is said respecting the builder of it is incidental, being involved in the exposition of passages of Scripture touching the utilitarian objects of its construction. The Scripture at present under consideration is Jehovah's address to Shebna in the twenty-second chapter of Isaiah, beginning with a clear proof of the convertibility of a treasure-stronghold into a monumental tomb. Having considered some of the reasons for believing that the person with whom Shebna is compared was Joseph, and that his "sepulcher on high" was the king's chamber in the Great Pyramid, it is now in order to enquire what is meant by

(9) *His Habitation in a Rock.* A sepulcher for the dead and a habitation for the living are in a manner the correlatives of each other; and if the "sepulcher on high" was the cavern-like king's chamber, with its empty sarcophagus, it is natural to suppose that the correlative "habitation in a rock" was the cottage-like queen's chamber, with its empty niche. The only incongruity in this supposition is that the relation of the sepulcher for the dead to the habitation for the living, in respect to altitude, is the reverse of what is customary and seemingly proper; but this reversal of one of our most ordinary ideas of the fitness of things is to be explained by whatever adequate reason can be assigned for the half-finished condition of the subterranean chamber, showing, as it does, an abandonment of the use for which that chamber was intended, and a transfer of this use to the king's chamber, as indicated by the presence of the

granite sarcophagus in this chamber rather than in that. To any one who believes in the inspirational character of the Great Pyramid, the explanation of this anomaly very readily suggests itself. It is simply that the transfer was made, and that the sepulcher for the dead was exalted above the habitation for the living, by a man inspired with the grand truth of his own resurrection from the dead, as well as that of the patriarchs before him, through faith in the promised Redeemer, who said before his crucifixion, as truly as he says still, "I am the resurrection and the life; he that believeth on me, though he die, yet shall he live: and whosoever liveth and believeth on me shall never die."

A habitation for the living may also, I think, be very properly assigned to a life-like statue of the inhabitant, such as "the diorite statue," traditioned to have once occupied the niche in the queen's chamber, if I am right in identifying this statue with the co-called "statue of Cephren" in the Boulak museum. Such a statue, though as life-like as Pigmalion's Galatea, could have no use for air-channels, never having breathed the breath of life, and, therefore, being incapable of revival. On the other hand, a dead body, having once lived, might aptly represent the dead in trespasses and sins, and their capability of resurrection to newness of life through the regenerating influence of the Holy Spirit; and so the king's chamber, with the dead body in its granite sarcophagus, was furnished with air-channels, while the queen's chamber, with the diorite statue in its limestone niche, was furnished with none. Moreover, the queen's chamber, with its salt-incrusted vestibule, its walls of submarine limestone, its sunken floor and its depressed niche, speaks of the sadly remembered, conservative, fossiliferous past, all the more pathetically for its desertion by the life-like statue that once commemorated the presence of its mortal inhabitant. The king's chamber, on the contrary, above and beyond, regnant with the upheaved granite of its walls, of its raised floor, of its roof and chambers of construction, and of the raised block and uplifted portcullis in its antechamber, speaks of the triumphant and glorious future, of the resurrection and the coming of the Christ in his kingdom, all the more eloquently for the absence

of the prophetic bones that once occupied its granite sarcophagus. These contradistinctions between the king's and queen's chambers, including that between the dead body and the diorite statue of the treasurer who "hewed him out a sepulcher on high and graved a habitation for himself in a rock," seem to me very appropriately symbolic of the contradistinction between "the house of Joseph" and "the house of Judah."

But what proof is there that the traditional diorite statue in the niche of the queen's chamber was an actuality, and that it was sufficiently life-like and far-removed from monstrosity not to have been intended as an object of idolatrous worship, as some suspect it to have been? I have already intimated its identity with the Egyptian statue, or rather statue in Egypt, called Cephren's; but as to the correctness of this ascription, whoever will attentively consider it from the standpoint of philosophic and artistic criticism, must recognize in the so-called statue of Cephren such a wonderful superiority to all purely Egyptian types and works of art, and such a striking similarity in physiognomy to the descendants of Joseph through Ephraim and Manasseh, as to furnish the best of reasons for believing it to have been a work of divine inspiration, representing neither Cheops nor Cephren, but their divinely inspired prime minister, the Hebrew builder of the Great Pyramid. Cephren, having been the survivor of the good Philitis by more than forty years, must have been the Pharoah to do him appropriate honors. For this reason I think that Cephren not only placed the body of Joseph in the coffin in the king's chamber, but also placed his statue in the niche of the queen's chamber, and that this became an object of idolatry under Mycerinus. I think, too, that when Ratœses, the grandson of Cephren, became aware of the desecration of the Great Pyramid in the abstraction of the bones of its deified builder, he ordered a removal of the idolized statue of this august personage to Cephren's temple of the Sphinx, affording in this natural association of ideas equally natural reasons for the development of the supposition that the statue was Cephren's.

The necessity for an explanation of the fact that the statue in question is called Cephren's, whether it is identical with the tra-

ditional diorite statue in the niche of the queen's chamber or not, is the absolute absurdity of the supposition either that it was a representation of an Egyptian king or the work of an Egyptian artist. In this dilemma reason justifies us in considering it both the representation and the work of an inspired Hebrew. There is nothing more incredible in this than in the fact that the statue of Thorwaldsen was the work of his own hands. Such a juvenile stage of artistic development as that which the ancient Egyptians exhibited in their ambitious attempts at sculpture and pictorial representation—showing such want of all ideas of grace and rules of perspective, and so forcibly reminding us of the similar, though better productions of the Aztec relatives of the Egyptians in Central and South America—seems to me no less inconsistent with a rational belief in the so-called "statue of Cephren" as the work of an Egyptian sculptor, than with a rational belief in the so-called "Pyramid of Cheops" as the work of an Egyptian architect. Considering all the artistic truth to nature wrought into the one, and all the mathematical truth to nature wrought into the other, the inspirational theory is the only rational explanation of either; and to whom can the inspiration be more reasonably ascribed than to "such a man" as the interpreter of Pharaoh's dreams? For the accomplishment of works four thousand years ago equal to the highest art and science of the present day, we may look on Joseph after his ten years' imprisonment on account of his purity and goodness, and enquire, in the language of Pharaoh, "Can we find such another as this, a man in whom is the spirit of the Gods?" (Genesis xli, 38.) Certainly the exceptional statue of which I speak is far more conspicuously superior to all unquestionably Egyptian statuary than the Great Pyramid is to all unquestionably Egyptian pyramids; and no one can recognize this fact without seeing that it is no more an image of Cephren than the Great Pyramid was the tomb of Cheops. Like the latter, it is "*in Egypt, but not of Egypt.*"

Sir Henry Rawlinson, in his 'History of Ancient Egypt,' expresses the opinion that Cheops and Cephren, or Khufu and Schafra, as he prefers to call them, were the greatest tyrants that the world has ever known, earning the hatred and detesta-

tion of their subjects by compelling them to build the two oldest and greatest of the pyramids, for no other purpose than to entomb their royal corpses, in honor of their infamous lives. And yet, in spite of his natural expectation of seeing the features and expressions of a Nero or a Caligula in a reputed statue of one of these tyrannical monsters, this is what he says of it:

Shafra is the first of the Egyptian kings whose personal appearance we can distinctly and fully realize. Two statues of him, in green basalt, his own gift to the temple of the Sphinx, show him to us such as he existed in life, bearing upon them as they do the stamp of a thoroughly realistic treatment. The figure of the king is tall and slender, the chest, shoulders and upper arm well developed, but the lower arm and the lower leg long and slight. The head is smallish, the forehead fairly high and marked with lines of thought, but a little retreating, the eye small, the nose well shaped, and the lips slightly projecting, but not unduly thick; the chin well rounded, and the cheek somewhat too fat. The expression, on the whole, is pleasing, the look thoughtful and intelligent, but with a touch of sensuality about the under jaw and mouth. There is no particular sternness, but there is certainly no weakness in the face, which is that of one not likely to be moved by pity or turned from his purpose by undue softness of heart. (Volume I, page 57.)

Considering the demand of the moral nature in every true man for self-conscious consistency, I think it probable that Rawlinson's physiognomical judgment of the supposed statue of Cephren conformed, as far as the stronger part of his moral nature would allow, to his *a priori* judgment of the character of the original. Had he taken this diorite or greenstone statue, as I do, for an image of Cephren's prime minister, produced by the minister's own hand under the influence of the spirit of truth in filial loyalty to nature, it is likely he would have seen no "touch of sensuality about the mouth," and no occasion to remark that the face "is that of one not likely to be moved by pity," though he might have thought of it as belonging to one not likely to be "turned from his purpose by undue softness of heart," his purpose being the fulfillment of the designs of Heaven for the greatest good of the greatest number, and for the reestablishment of the church and kingdom of the Heavens on earth, in "the times of the restitution of all things."

From a utilitarian standpoint, the niche in the queen's chamber, with its width of over four feet to its height of thirteen feet on the sides, and with its depth of about three and a half feet to its height of fifteen feet in the middle, affords clear evidence of an intentionally grand and well-proportioned accommodation for a statue and pedestal of noble dimensions. Imag-

ining the statue standing in its place, the curious fact of its situation northward of the middle of the east wall may be taken as an indication of the direction from which the original came into Egypt, and in which his bones would return to "the parcel of ground" given him by his father Jacob in the land of Canaan. The diorite statue could easily have been introduced to its "habitation" ere the ascending passage was closed by the granite stopper, and more easily still when the Great Pyramid was in its queen's-chamber stage of construction. The only difficulty is that of finding a means of egress on the occasion of its removal from the Great Pyramid to the temple of the Great Sphinx. This must have been accomplished, if at all, by a withdrawal of the granite stopper, and this could have been effected by the same machinery which let the stopper into its present position, debarring access to the sacred remains of the honored prime minister from the time of their committal to the granite sarcophagus. My idea is that the machinery by which the granite stopper was carefully滑ed up and down consisted simply of a rope and pulley attached by its lower end to a ring in the upper end of the stopper, and by its upper end to a loop through the four-inch drill-hole of a certain granite slab fastened securely to the great step at the south end of the grand gallery. This granite slab, with the drill-hole in it, I deduce from the fragment described by Petrie on page 28 of his "Pyramids and Temples of Gizeh." By the supposed machinery attached thereto, as to the unalterably fixed point, the stopper could have been drawn up into the space between the ramps, out of the way of the passage of the greenstone statue from the queen's chamber to the temple of the Sphinx.

But Rawlinson says that to this temple Cephren contributed *two* statues of himself—two statues of one and the same person to one and the same place, at one and the same time. Is this reasonable? Is it not more in accordance with the fitness of things to believe that the person was the prime minister of Cheops and Cephren, and that of his two statues Cephren contributed one to the temple of the Sphinx, and the other to "the secret place" of the Great Pyramid, to signify the authorship of the two grandest monuments on the Gizeh rock by one and

the same inspired personage, and their intimate relation to each other as representing the relationship between the earth and the signs of the zodiac? I think so, and that when Ra-Toeses learned that his foster-relative, Ra-Mœses, had robbed the Great Pyramid of the bones of its inspired architect, and had despoiled it of its treasures, he said: "I will overtake, I will divide the spoil; my lust shall be satisfied upon them; I will draw the sword, my hand shall repossess." (Ex. xv, 9.) I think, too, that when Aseskaf, the last king of the fourth dynasty, learned of the overthrow of his father in the Red Sea, and saw the impossibility of repossessing the bones of Egypt's great benefactor, he ordered the idolized statue to be taken from the queen's chamber and transported to companionship with its mate in the temple of the Sphinx, where it would be free from the desecration thenceforth attached to the Great Pyramid.

If any one thinks that in the foregoing I have turned aside from my subject to find support to my theory of its connection with Joseph, let him consider the fact that among the thousands of statues in ancient Egypt the only ones "thoroughly realistic" were two in marked contrast with the absurd conventionality, or rather juvenility, of all the rest; and if of these two one can be shown to have been contributed by Cephren to the niche in the queen's chamber, let him ask himself if this one must not needs be very properly included in our identification of the queen's chamber with the "habitation in a rock" graved for himself by the treasurer with whom Isaiah compares the treasurer of Hezekiah. Of course, those who hold to the opinion that Cephren was the builder of the second pyramid, and that he could not have been one of the two kings designated in the "quarry marks" discovered by Howard Vyse in the first of the Great Pyramid's "chambers of construction," must needs consider it far from shown that Cephren contributed one of the life-like statues, either of himself or of somebody else, to the niche in the queen's chamber of the "Pyramid of Cheops." But if it be unreasonable to believe that Cephren contributed two statues of himself to the temple of the Sphinx, those who believe him to have been the proprietor of the second

of the two Great Pyramids ought to be able to find a niche therein for one of them, as also to show that he was buried in the sarcophagus therein, rather than in the outside tomb called "Cephren's," not far from the tomb of Cheops, as represented in the map of the Gizeh rock in 'Our Inheritance.'

After all this array of argument in favor of the habitation of the queen's chamber by a graven image of the inspired builder of the Great Pyramid, is it not condemned by the very first of the twelve curses commanded by Moses to be pronounced by the Israelites themselves from the top of Mount Ebal: "Cursed be the man that maketh any graven or molten image, an abomination unto Jehovah, the work of the hands of the craftsman, and putteth it in a secret place." (Deuteronomy xxviii, 15.) That this curse was directed against an extreme propensity of the Israelites to fall into a certain practice of the idolatrous Egyptians and Canaanites, that of putting the image of a deified hero in the "secret place" of his treasure stronghold, on the occasion of its conversion into his monumental tomb, I not only freely admit but earnestly maintain. For I also claim that the diorite statue in the "secret place" of the Great Pyramid, though the "graven image" of a hero, was not that of one intended to be deified and worshiped, and was not "the work of the hands of a craftsman," false to nature, like all the idols that were ever made, but was, on the contrary, the "graven image" of the world's most perfect type of the Saviour of mankind, wrought by his own inspired hands, under the influence of the spirit of truth, making it as truly a work of art, in distinction from the work of a skillful mechanic, as the most masterly statuary of the present day, and thus making it the very opposite of "an abomination to Jehovah." It had, indeed, become idolized as did the brazen serpent made by Moses, and a snare to the Israelites, but the maker "meant it not so, neither came it into his mind."

(10) *The sense in which the treasurer with whom Shebna is compared may have been said to hew out and grave his chambers in a structure of multifarious stones as in a solid rock.* To most readers of THE INTERNATIONAL STANDARD, the Great Pyramid was evidently intended to represent, in its perfected condition,

the individuality of perfection, or that of the self-existent being, the *I Am*, and therewith his perfect incarnation in humanity and his manifestation in the spiritual and material universe. Hence, though composed of a vast number of rocks, it is called in the sacred Scriptures, "the Rock," and it is thus referred to as a symbol of the triune Jehovah, the Elohim to be incarnated in the person of the Christ. For example, Moses says, "I will publish the name of Jehovah ; ascribe ye greatness to our Gods; he is the Rock; his work is perfect." (Deut., xxxii, 4.) A great rock of perfect workmanship and individuality. David says, "Jehovah is my Rock, and my Fortress, and my Deliverer: the God of my Rock; in him will I trust: he is my Shield, and the Horn of my Salvation; my high Tower, and my Refuge, my Saviour." (2 Samuel, xxii, 2, 3.) In Isaiah, according to the marginal correction, we read, "Trust ye in Jehovah forever; for in Jehovah, Jehovah is the Rock of Ages." (xxxi, 4) To those who "flee for refuge" to the Saviour of sinners, He is "a hiding place from the wind, a covert from the tempest, and the shadow of a Great Rock in a weary land." (Isa. xxxii, 2.) In the literal sense of the term, the "weary land" was that in which the Israelites wearied of their hard bondage; was it not? That a literal rock, in the sense of a unity of structure, is referred to in these passages as a symbol of Jehovah, few will be disposed to deny; and that it was the great tower, altar, refuge, or the Great Pyramid, in the condition in which it was contemplated by the prophets, all who believe in "our inheritance in the Great Pyramid" will be disposed to admit. The "Rock of Ages" is the "Ancient of Days" and the "memorial to all generations." To represent the unity of the many members of the one body more perfectly, the Great Pyramid was clothed with a garment of casing-stones, so uniform in whiteness and so closely fitted to each other and to the stone of the chief corner as to give to the entire structure the appearance of a solid rock. Moreover, in order that the sepulcher and habitation for the dead body and diorite image of its architect might appear to have been hewn out and graved in this sold rock, their interior stones were so perfectly adjusted to each other, and so ed and polished to a common surface, as to be indistin-

guishable. These principles of construction, as well as numerous passages of Scripture, including those already quoted, are confirmatory of the opinion of Mr. J. Ralston Skinner and others, that the "rock out of the water," the symbol of Christ Jesus and of those who "follow him in the regeneration," constituting the Christ and his kingdom, was the Great Pyramid of Jeezeh.

The "hewing out and graving," by "line and plummet," in the rock foundation on which the Great Pyramid stands, was in a manner imitated in the mathematical passages and chambers of the superstructure, as it were in a crystalline growth and development of the parent rock; and seemingly in recognition of this synonymy in the Great Refuge representing the Christ, in contrast with the incongruity of a refuge of the sand-hill description, it is said in Isaiah: "Behold, I lay in Zion, for a foundation, a stone, a tried stone, a precious corner-stone, a sure Foundation: he that believeth shall not make haste. Judgment also will I lay to the line, and righteousness to the plummet; and the hail shall sweep away the refuge of lies, and the waters shall overflow the hiding place." (xxviii, 16, 17.) Finally, enquiring of Pharaoh's treasurer his object in "hewing him out a sepulcher on high and graving a habitation for himself in a rock," his reply appears to be, that he might represent the Christ both in himself and in the Great Pyramid—in himself "the stone, the Shepherd of Israel," and in the Great Pyramid "the Rock of Ages," the "refuge from sin," the "strong tower from the enemy;" also the great treasure-stronghold, "wherein are hid all the treasures of wisdom and knowledge" (Col. ii, 3); also the Great Monumental Tomb, from whose "chambers" and "secret place of the Most High" he might say to Israel, in the name of the promised Victor over Death: "Thy dead men shall live, together with my dead body shall they arise. Awake and sing, ye that dwell in dust: for thy dew is as the dew of herbs, and the earth shall cast out her dead. Come, my people, enter thou into thy chambers, and shut thy doors about thee: hide thyself as it were for a little moment, until the indignation be overpast. For behold, Jehovah cometh out of his place, to punish the inhabitants of the

earth for their iniquity: the earth also shall disclose her blood, and shall no more cover her slain." (Isa. xxvi, 19-21; and see Rev. vi, 9, 10.)

J. W. REDFIELD.

HEBREW METROLOGY.

The subject of Hebrew Metrology, as ordinarily thought of and accepted, is not to be touched on in this paper for want of space. It would at any rate, be but repetition of that which can be gleaned from many works.

Tentatively we have discovered that the *radius seconds* of the circle of 360 degrees, viz., 206,264.70+ seconds, practicalized in measure as 20.~~.626470~~ imperial British inches, was an ancient Egyptian cubit value—the so-called *Nilometer* cubit. But in the numerical value of a proportion is the natural outgrowth or development of, geometrically, a *pi* value, wherein the *pi* ratio is 20,612 for circumference of a circle, to 6,561 for diameter. The proportion is this: 20,612 : 6,561 :: 64,800 : 20,626~~.470~~. And, indeed, 20,612 was utilized in like manner as a measure in the same standard (British inches), so that 20.~~.612~~ such inches made the length of another of the Egyptian cubit measures, the so-called "Turin" cubit. By actual microscopical tests by Bidone and Plana (Seyffarth) the Turin cubit measured 20.~~.61172~~ British inches, and by Wilkinson the Nilometer cubit measured 20.~~.625~~ British inches.

The application of these cubit measures to the best reported measures of the Great Pyramid, proves that the cubits were derived from the above formula; as to which the actual cubits referred to show so close an approximate.

The learning of the Egyptians was that of the Hebrews, and there is demonstration that the most sacred measure of the Hebrews was the Turin cubit and its derivative, the Nilometer cubit. From this proportion 20,612 to 6,561 (which was es-

teemed in Holy Writ as true *pi*, and beyond doubt is*) the modified form of 355 to 113 is to be obtained. (See 'Crown Jewels of the Nations are Their Measures.') From these two ratios, viz: 6,561 to 20,612 and 113 to 355, the entire system of sacred metrology of the Hebrews took its rise, as is found demonstrated in the Hebrew text of the Holy Bible, especially in Genesis and the five books of Moses. One may imagine how sacred these measures must have been esteemed, when it can be said that on the ratio 113 to 355 rested what is called in the Sacred Record the "*Man even Jehovah*" measure (Genesis iv, 1), and that this rested for its origin upon the radical one of 6,561 to 20,612.

The interior, or sacred metrology, was not open with the Hebrews any more than with the Egyptians. To illustrate this: as said, the Nilometer cubit is found to have been 20.~~.626470~~ British inches in length; but if an Egyptian cubit stick of this length, or of the length of 20.~~.612~~ of such inches was examined it would be found that no division of the same would show any relation whatever to the British inch, or any denomination of measure founded thereon, as the foot, etc. Thus the workman would be in complete ignorance of such relation as belonging to the measure he was using.

The secret, as we have empirically and tentatively discovered, lay in this, viz: the knowledge and use of the Imperial British inch, and the denominations based on it, existed as a knowledge separate and secret and sacred. Either of the cubits mentioned was known, to those possessing this secret, in its totality, to be the one 20.~~.612~~ of such secret, sacred inches, and the other 20.~~.626470~~ thereof; and from these, by the transference of certain uses of the cubits themselves into this new realm of measure, an especial interpretation, perfect in its coherences and applications, as, for instance, to astronomical times and cosmic distances, etc., was made.

As to metrology: Instead of a valuable adjunct to the Biblical system, having mention here and there in the Sacred Text,

*It may be interesting to those who are not aware of the fact to know that Professor Roche of Philadelphia, has, by the simplest application of the rules of Euclid, shown geometrically the exact equality of a square for any given circle in area; and this shows essential error in what is called established π.

the entire text of the Holy Writ, in the Mosaic books, is not only replete with it, as a system, but the system itself is that very thing, *in esse*, on which, and out of which, and by the continuous interweaving use of which the very text of the Bible has been made to result, as its enunciation, from the beginning word of Genesis to the closing word of Deuteronomy. For instance, the narratives of the first day, of the six days, of the seventh day, of the making of Adam, male and female, of Adam in the Garden, of the Garden itself, of the formation of the woman out of the man, of the extension of time to the flood with the genealogy, of Ararat, of the Ark, of Noah with his dove and raven, of the space and incidents of Abram's travel from Ur of the Chaldeans down into Egypt before Pharoah, of Abram's life, of the three covenants, viz: with Noah, with Abram, and at Sinai, of the construction of the Tabernacle and the dwelling of Jehovah, of the famous 603,550 as the number of men capable of bearing arms who made, with their families, the exodus out of Egypt and the like—all are but so many modes of enunciation of this system of geometry, of applied number ratios, of measures and their various applications. This system embraces, for a part thereof, that same one which we find conclusively to be embraced in the structure of the Great Pyramid.

This system is a language in, of and by itself, which, moreover, embraces much which at first seems apart and separate from the discussions of exact science and astronomy, viz: for example, man in his various conditions and relations to what we call God, and also to nature, especially in the department of the exertion of the parturient energies. The reading of this language is an outgrowth from, in harmony with, and partly determined by, the visible and first face text. To the extent to which this language was known among the Jews, the learning and teaching thereof was called Cabbalah.

In the narrative form man himself, as the Adam, the archetypal man, the Adam Kadmon, was taken as the grand representation and containment of this entire system. In himself he was considered as the reflection of the Component parts or nucleations out of the Willing, Intellectual, Unknown, Incompre-

hensible First Cause; and thus became, in substance, thought and conception, the exponent as to all that came within his knowledge of that First Cause as to the phenomena of its operations; Itself thus, in him, becoming personal out of the impersonal. Hence in and of himself he contained this very system, which became in the text of Holy Writ, expounded in its chief words of nomenclature through himself and his names. As the First Cause was utterly unknown and unnameable, such names as were adopted as most sacred, and commonly made applicable to the Divine Being, were, after all, not so, but were such manifestations of the First Cause, in a cosmic or natural sense, as could become known to man. Hence these names were not so sacred as commonly held, inasmuch as with all created things they themselves were but names or enunciations of things known, either by experience or revelation. The ratios to which belonged 20,612 and 20,626 were those from whence came literal and matter of fact measures, which, in turn, took names from the members of the man. Thus the Hebrew system of measures rested on the thumb's breadth, the digit, the palm, the span and the cubit. These measures were made, by a beautiful mode of construction, to coördinate measures of space with those of time. By the very fact that they borrowed from a man his members as a mode of nomenclature, so in the comprehensive term man himself, in the numbers of his name, viz: 113 was found a typical and subordinate source or mode of measures, peculiar to themselves, in use and application and intendment. To somewhat explain this, let us refer to the canon of architectural measures by Vitruvius: Suppose the circle of the base of a column, for esoteric measures to have been taken from the form of a man stretched out on the ground looking upward, so that taking his navel as a center, the circumference line was made to touch the extremities of his outstretched fingers and toes. Now this man, thus occupying this space, might be held to be the typical or -man measure of the base of this column, out of which and constructed with which should belong the attending circumstances of height, shape, capital, grooves or flutings, *et cetera*, of the column; and all this to grow out of the ideal and merely abstract number of his name,

irrespective of whatever actual measures might be given to such a column, as so many cubits, palms, digits, or what not. Thus this column, irrespective of its actual measures, could be read in terms of its ideal abstract typical ones, as for instance: *Man* is 113; this is diameter to 355 for circumference, and 355 for one thing indicated the measure of the lunar year (*Shanah*) in the natural measure of days, and at the same time was the proper name Pharoah. So, also, 355 is the outgrowth of the use of the word *dove* in the flood narrative, for its value is 71, it is used five times and $71 \times 5 = 355$. Now, to resume, suppose that for height the base of the column, or man measure, should for this purpose be taken for the length of the foot of the man, and by a rule of construction the height of the column should be taken as six times the length of the foot. Thus, the base being 113 (for *man*) then the height would be $113 \times 6 = 678$; and this is the value of the letters used for that other bird mentioned in the flood narrative in the expression or word, *ath-k'orebv* (sic, in the text, as connected by hyphen) "and-the-raven," the values of the letters of which give as their sum this same number 678. Thus one can see that running along with actual measures is a typical system and use of same. This raven use of the numbers 678 is of great significance and found in various places; for instance: We have it first as the prototype in the flood narrative. We also have it as the deepest underlying key to Grecian architecture in its inception, and, moreover, Rawlinson, in his 'Herodotus,' says that the word is that from whence the name Europe. We have it to day, in such uses as causes the utmost amazement and surprise, at the continued familiar use to some who must now be initiates of this kind of learning. But what is of the most interest to us is that the use crops out in the Great Pyramid. One of the most wonderful places in the structure is found in the attainment of the surface of the great step, where one arrives to the plane of the floor and open entrance to the Holy of Holies, or the king's chamber. The height of the grand gallery from the face of this step is 339 British inches. This is radius to a diameter of $339 \times 2 = 678$ inches, or this very raven number. The radius is taken to show division into two parts, a favorite use, which are 1065 each.

For the ratio 113 to 355 multiplied by 3 equals 339 to 1065. Now the numbers 1065 are the significant ones of Jehovah's name, viz.: *jod, vav, hé*, or 10 and 6 and 5, which the rabbis extol so beyond all other numbers and say that by their uses and permutations, under the law of *T'mura*, the knowledge of the entire universe may be had. The entire circumference will be $1065 \times 2 = 2130$, of which 213 is the factor with 10; and 213 is the first word in Genesis, viz.: *Rash*, or *Head*, from whence the entire book. By one of the permitted changes 1065 becomes 1056, and in this we have the numbers of Mt. Sinai and those to show the descent thereon of Jehovah in a bush of fire, the chief object of the use of which numbers, so arranged and applied on the Mount, is to afford as a result the *exact* astronomical value of the lunar year, viz.: $354\frac{8670548}{1000000}$ days—that is, in natural measure. Besides this, and what is most remarkable, is the fact that these same numbers, under the letters given, were introduced into China some twelve centuries prior to the Christian era and taught by Wang, and quoted by Saoutz, the preceptor of Confucius, as the root and base of all knowledge, under the form of an enigma or riddle.

The distinction between the two branches of this general system, viz., between the actual measures from the ratio 6561 to 20612, and the ideal abstract *man* measures, from the ratio 113 to 355, gives rise to two great and well settled distinctions in the Mosaic Books. As a use, derivative and reduction from the first, we have the great God-word *Elohim*. The running characterizing small numbers of this name, in Hebrew, are 13514, which, placed on the bounds of a circle, will serve to give expression to the measure of the same; for they can be read as 31415, which is what we to-day call the value of π , and is so significant as to be used in astronomical tables as a *constant co-efficient*, that is, it is the numerical value of the circumference of a circle whose diameter is *one*; hence the Biblical expression by the rabbins: "His name is *Echod*," or *One*. This is the distinctive, so-called, *Elohistic* branch. As a distinctive use under the second, we have the "measure of a man," or 113, which also is significant of a π value, inasmuch as it is diameter of a circle to a circumference of 355. But in its Biblical

origin, Genesis, chapter iv, verse 1, it is called the "Man Even Jehovah" measure; and this is obtained in this way, viz.: $113 \times 5 = 565$, and the value 565 can be placed under the form of expression $56.5 \times 10 = 565$. Here the *man* number 113 becomes a factor of 56.5×10 , and the reading of this last number expression is *jod hé vav hé*, or Jehovah. Hence this is the distinctive, so-called, *Jehovistic* branch of these books. The expansion of 565 into 56.5×10 is purposed to show the *emanation* of the male (*jod*) from the female (*Eva*) principle; or, so to speak, the birth of a male element from an immaculate source.

In Al-Chasari, by Hallevi, written in the twelfth century, the author clearly shows the distinction between the names Elohim and Jehovah, in this, viz., that the first is a generalized term, serving as a constant as entering into all created works and forms whatever, while the name Jehovah is a particular or discrete manifestation of most especial value to man because of His immediate intervention in and superintendence over man in all the most cherished details of his being, especially in the department of conception and birth, *i. e.*, as the energizing activity.

I now assert that what has been said can be proven to demonstration from the holy books, and then reinforced and confirmed by a multitude of supporting facts, scattered all along down through history and tradition. It all goes to show that the world of thought and study, through these thousands of years, has, in accepting the Biblical record on its first face reading only, been taking the *shadow* for the *substance*; and hence the interminable difficulties and unending changes of exegesis.

And in view of this, let me close this contribution with two quotations—one from Schopenhauer and one from Ralph Waldo Emerson.

Schopenhauer, in 'World as Will and Idea,' says:

In the idea of perception, illusion may at moments take the place of the real, but in the sphere of abstract thoughts (such, for instance, as compose the religious philosophy and Biblical exegesis of our day) error may reign for a thousand years, impose its yoke upon whole nations, extend to the noblest impulses of humanity, and, by the help of its slaves and dupes, may chain and fetter those whom it cannot deceive.

Ralph Waldo Emerson says :

The religion that is to guide and fulfill the present and coming ages, whatever else it may be, must be intellectual. The scientific mind must have a faith which is a science, at first cold and naked, a babe in the manger again, the algebra and mathematics of ethical law, the church of men to come, without shawms, psaltery or sackbut; but it will have heaven and earth for its beams and rafters, with science for its symbol and illustration; and it will fast enough gather beauty, music, pictures and poetry.

J. RALSTON SKINNER.

*THE CAMPAIGN OF MOSES IN THE EXODUS FROM EGYPT.

By Monsieur E. Lecointre, Engineer on the Retired Marine List and Officer of the Legion of Honor. Translated from the French by Mrs. A. M. Searles.

The expedition of Moses in the exodus from Egypt remains enveloped in a profound mystery that few have sought to penetrate. The divine intervention plays therein a role so grand that it absorbs our whole attention, and we scarcely turn our eyes upon the other interesting features of the narrative.

Nevertheless, God only comes to the aid of his people to save them from desperate situations where human aid is powerless. Thus, seven days after their departure, He opened for them a passage through the waves of the Red Sea—Salvation for Israel! Chastisement for Pharaoh! Twenty days later He sent the manna to save them from the pangs of hunger, and four days later still, He caused the rocks of Horeb to spout forth water to allay their thirst. But for the remainder, the people lived, marched and manoeuvred under the orders of Moses, who consequently held the important post of commander of the expedition. If he has not spoken on this point, it is because he had received an order to write a book, destined to record for posterity the wonderful works of the Lord in behalf of his people, and not to give the history of the campaign. (Ex. xvii, 14.)

Interpreters have expended not a little time and ingenious research in attempts to discover the exact point where Moses

* This book has a preface by M. L' Abbé Moigno, of which a fine translation was made by Mrs. Emily Lewis, and was published in the July, 1883, number of the STANDARD.

crossed the Red Sea, and justly so, for if once this point is established, the days of rest marking the stations inevitably conduct them even to Mt. Sinai. Nevertheless, up to this time, this research has failed of success and still remains veiled in obscurity. Of all the solutions that have been presented thus far, not one offers incontrovertible evidence. In the January, 1881, number of the *Revue des Questions Historique*, the learned Abbé Vigouroux has pointed out the errors in each of these solutions, and rejected them all. But that which he proposes is very far from settling the question.

In the present work we propose to study this mysterious campaign of Moses, or rather the first part of it—that which conducts him to Mt. Sinai—for it is up to this point that the accounts seem to be at fault.

PART FIRST.—THE EXODUS FROM EGYPT.

In the second year of the great famine, which for seven years rendered Egypt and her neighboring countries desolate, Joseph induced his father and his brethren to come to the land of Egypt, settling them in the land of Goshen. There they multiplied exceedingly, and in after years their descendants were oppressed by a later Pharaoh, to whom Joseph was unknown. He was, as we shall presently see, the founder of the nineteenth dynasty. Seeing them increasing so rapidly in number, he began to fear their prospective power, and therefore wished to enfeeble them and to reduce them to slavery. This oppression was continued by his successors, who employed them to build the great monuments, the ruins of which still cover the land of Egypt.

Finally Moses received from God, on Mt. Horeb, the commission to deliver his people and to conduct them to the land of Canaan. In consequence of the ten plagues with which he smote Egypt, he acquired considerable influence, and at last obtained, through the terror of the reigning Pharaoh, permission to depart. At midnight on the fourteenth of Abib, corresponding to our March, the signal was given. Early on the morning of the fifteenth they left their homes, and putting behind them the whole land of Goshen, they encamped the first

evening at Succoth, and the second at Etham, at the entrance to the desert. There Moses received the order to change the route and to encamp on the Egyptian bank, at the foot of a certain region called Pi-ha-hi-roth, between Migdol and the sea, opposite Baal-Zephon, where, some days later, they were surprised by the army of Pharaoh. It was there that Moses stretched forth his hand over the waters, which were divided, giving passage to the Israelites but engulfing the Egyptians.

Such is the resumé of the facts. To reconnoiter these places and review the action, the most rational method would be to collect the references scattered through the sacred text, then search for the places—in a country well known to-day, thanks to the constructing of the Suex canal—to which these names are applied. The Bible and geography will be our sole sources of information. We shall lay aside the pretentious traditions and etymology which have played a role more or less important in past accounts.

The tradition does not exist among the Jews outside of the Bible and the Talmud. How we wish it had been preserved among the people who have come in such numbers to replace, in the land of Egypt, the sons of Pharaoh. As to the spelling, here is an example of the results to which it has led. What does the word Pi-ha-hi-roth signify? We know not whether it is a common or a proper name, whether it is Hebrew or Egyptian. One knows very little of the first language, and still less of the second. So much being granted, let us hear the commentators.

Dom Calmet, in his commentary, considers it a proper name, but at the same time states explicitly that different versions have made it a common name, and have translated accordingly the passage, *Venerunt contra Pi-ha-hi-roth.* The Septuagint says: "They came opposite the market town;" the Arabic, "to the gate of Bébélah;" the Syriac, "to the mouth of the ditch, or trench." (*Ostium fossati.*)

Pere Sicard and Pere Pujol take the latter definition. "Thouaireq," says Pere Sicard, "is the same word that in the Bible is called Pihahiroth; I find the proof of it in the Arabic; in He-

brew it signifies 'the mouth of the hole.' Thouaireq in Arabic means 'many little holes, ditches or canals.' " *

Pere Pujol is not less firm in his convictions. He says: "The Arabic names encourage me by their eloquent significations to stand by my convictions. Thouaireq, that is, 'the ditches, the canals,' and Pihahiroth is by the ancient Syriac very properly rendered *ostium fossati*."

Unhappily Moses says: "*Omnis equitatus et currus Pharaonis et universus exercitus erant in Pihahiroth*"—"The cavalry, the chariots and the entire army of Pharaoh were in Pihahiroth"—which renders their solution ridiculous, for, according to Pere Sicard himself "Thouaireq is nothing but three or four small pits of salt water, confined in rocky reservoirs hidden in the sand, which are only three or four paces long, and much more shallow, and to which the passage is narrow.

Monsieur Brugsch understands it to mean the entrance to Khiroth, or gulfs of the lake Stirbon.

Dubois Aymé is of the opinion that Pihahiroth owes its name to this circumstance: "That it overlooks the entrance to the gulf," but he does not say why. Then he identifies it with Adjerout, "a name," he says, "analogous to the Hebrew *Hahiroth*, or the Egyptian *Adjerouth*. This Adjerout has a well of drinkable water, and it was for this single reason a place well known and named in olden times."

The Abbé Vigouroux thinks that this identification, "though not unquestionable, may probably be accepted as the true one."

But Linant de Bellefonds-Bey, who has for many years filled the position of minister of public affairs in Egypt, and consequently understands very well the language of the country, teaches us that "*Agerout*, in Arabic, signifies a place, or thing, barren, arid, uniform; for example, a young man without beard, or man who is bald-headed is called *Agerout*. *Agerout* is a modern fortress, built upon a high, arid rock, three hun-

* If the entrance or opening of the canals, may it not be that it is because of its situation on the shore of the Red Sea that it received its name? May not the water from the Red Sea at that time have been used for irrigation? I offer the suggestion for what it is worth, perhaps nothing.—(Translator).

dred and forty-four feet above the level of the sea, with a well dug in the rock two hundred and twenty-nine feet deep.”*

Thus it appears that *Agerout* is a modern Arabic word not in accord with either the Hebrew or the ancient Egyptian, and, applied to a fortress, has simply the signification of the name of a chateau such as are common in France, like Chaumont, Calmont, etc.

Linant-Bey also gives his version of *Pihahiroth*, and it is not less singular. He says :

At that period the gulph reached even to lake Timsah, and consequently to Nefiche, where the Pihahiroth of the Bible was situated. The bay, or swamp of rushes, to-day is called Kroubet-el-bous, an Arabic name with the same signification.

Evidently there is nothing scientific in all this, and the only real information upon the localities that we shall be able to deduce, must come from the part they play in the action wherein they figured. Let us, then, review them, and note with care all that concerns each of them.

*See ‘*Mémoire sur les Travaux Publics Exécutés en Egypte*,’ p. 204.

[*To be Continued.*]

CHEOPS, GEEZEH AND CHEPHREN.

The symbolic signification of these words I apprehend to be the key to much that is dark as yet to the student of pyramid literature, and believing as I do not only in the general symbolic teaching of the Scriptures, but in the symbolic prophecies relating to Egypt, and notably Hesaias xix., 19, "the altar," and "the votive pillar" "and that it shall be for a sign (or symbol) unto the Lord in a province of Egypt," it seems to me a matter of vital interest to know whether, perchance, God has not hidden in these much disputed terms, names, or appellations, as so many now fully believe he has, in the great stone "votive pillar," the secret of the cosmic universe, or at least the key to a better understanding of the symbol itself. I have found this to be true and wonderfully so of the patriarchal and prophetic names of the Scriptures. Take, for instance, the name of Jeremias. Interpreted it is the key-note to the harmony of the understanding of the whole book, as well as much else that is deep in the plan and purpose of God in his dealings with the nations. The analysis of the name is as follows: *Ieremias*—*ie* root of *Iemi*—to cause to go or send, *erem*—root of *eremoo*—to lay waste or desolate, and *ia*—root of *iaómai*—to heal—the same root as appears in *Jawah*, or Jehovah, which signifies "the healing breath" (or spirit). The whole meaning of the name Jeremias, "Send thou to lay waste and heal," or, possibly, if the breathing be smooth root *i* of *eimi*—to go, it would then read "Go thou," etc., instead of "Send thou," etc.

Now the analysis of the two Greek words Cheops (*Xeops*) and Geezeh (*Jeëze*) is evidently as follows: *X*(a cross) the letter here used as a symbolic adverbial modifier of the verb root *ops*—its symbolic significance recognized as far back as history or tradition have carried antiquarian research, *é* the root of *eimi*—to be, being or existence; *ops*, root of the future of *Orao* meaning to see, here used as a verbal noun—the full form *òpsis*

lit meaning the seeing, or the way to see, or the process of seeing, or that which enables one to see, a representation—often the human face. Whole meaning (the cross)—a symbolic representation of that which is (being).

Now recall to mind the fact that the significant name by which God announced himself to Habraām was *Őon*, The One Who Is, or The Being, and then the language of Paul to the Greek philosophers in explanation of who and what God is, "The One in whom we *live*, and *move* and exist" (have our being).

This leads us up to a more intelligent consideration of the next term in question, namely: *Jeēze* or *Geezeh*. Analysis as follows: *ge*, root of *gea*, contract *ge*—earth, the earth, as a whole, the planet earth; *ē*, root of *eimi*, to be, and *ze*, root of *zeo*—to seethe, or boil, or move with a rotary motion. Whole meaning: "An earth that is in seething (or rotary) motion."

Now, joining the interpretations of the two words we would have a thought in substance as follows: The Cheops of Geezeh is a "symbolic representation of an existing earth that is in motion." Then calling to our aid the assistance of revelation and assuming, as therein revealed, that all the laws or "first principles" of being or existence in this cosmos are analogous to the laws of being in another and higher cosmos or "order of things," is it strange that the searchers into the hidden mysteries of the Great Pyramid should claim that they have respectively discovered, according as they have sought, recorded or symbolized there in the stone the great "first principles" of both the natural and spiritual cosmos, the "times and the seasons," the cycles of the earth itself, and the cosmic arrangement of the Heavenly bodies in their cyclic relation to the earth itself, and to one another, man's destiny, present, past and future, and God's plan and purpose in this matter, the utility of revelation in metric standards, based upon great general principles, great in their simplicity and because they appeal to the average intelligence or universal acceptance or common sense of mankind? If, therefore, God has given us a symbolic teaching of "first principles" underlying the cosmic harmony of existence, animate and inanimate, natural and spiritual (and the very names themselves, in their etymological analysis, as I have shown

seem to indicate this), we will do well, I think, to encourage one another and in every way stimulate enquiry into this subject of vital importance. In this connection, and suggested by this thought, it may not be considered uninteresting to call attention to the significance of the name Chephren or Chephron, according to Herodotus, the son of Cheops, and his successor in rule. Chephren is the original Greek word, and the variation on the last syllable is dialectic merely. The derivation and interpretation is as follows: X, the symbolic cross, with all its wonderful emblematic import; έ, root of *eimé*, to be, and phren, the understanding, including all the faculties commonly denominated "head and heart." The whole interpretation, "a symbolic understanding of existence" (or being). If, then, the account of Herodotus in regard to Cheops, being the name of the person who not only built the Pyramid but closed the temples of idolatry for fifty years, be worthy of credence, we must conclude that this person took both these radical and important steps under the impulse of some sort of a religious conviction, and if his son for fifty-six years more perpetuated and emphasized the same purpose and rule, these names become very significant as the best probable or possible clew to this strange purpose thus worked out; and if, as surmised, these shepherd kings were prophetic seers and servants of God to supplement his revelation of himself in his written and spoken word, should we not moreover expect their work to have a name significant of its symbolic import and hidden mystery? Again, supposing these premises to be true, do not these interpretations exactly harmonize with the awakened expectations of common sense and common reason in regard to a subject that has been so long a mystery? If God were going to teach mankind in enduring symbol any two great truths, would it not be the fundamental facts and the rationale of his own existence and that of the universe in which man lives and moves and has his being? I think so, and, therefore, contribute these thoughts as suggestive aids to those who are better able to follow them out into their ultimate diversities of true science.

CHARLES GARDNER.

PYRAMID NOTES.

The granite length of the floor in the Great Pyramid's "ante-chamber" is the most convenient dimension whereby to compare the relative lengths of the British and the Pyramid inch. Expressed in British inches, that floor length is $324 \div \pi$: in Pyramid inches, the same dimension is = the number of days in the year $\div 2\sqrt{\pi}$. But that number being subject to variation, let us, for the moment, call it Y. Then granite length of ante-chamber,

$$\text{in British inches} = 324 \div \pi.$$

$$\text{in Pyramid inches} = Y \div 2\sqrt{\pi}.$$

If the British and Pyramid inch were *equal*, we should have:

$$\pi : 2\sqrt{\pi} :: 324 : 365.6000,$$

an equation which, by the way, yields the simple common fractional expression of

$$\sqrt{\pi} = \frac{324}{182.8} = \frac{81}{45.7}$$

a near enough approximation for most purposes,

being .17724288840, etc.,

instead of .17724538565, etc.

But Y is not equal to 365.6; and to get an exact value for it from the Pyramid, we have recourse to the grand gallery, where the extreme length in Pyramid inches is reported to be 1881.6 *exactly*, and also = Y^2 divided by $\sqrt{\pi}$ and then by 40. Hence the granite length of ante-chamber squared = $18816 \div \sqrt{\pi}$, that is, in Pyramid inches; so that $\frac{324^2}{\pi^2}$ British = $\frac{18816}{\sqrt{\pi}}$ Pyramid inches, and dividing by 48, $\frac{27 \times 81}{\pi^2}$ British = $\frac{392}{\sqrt{\pi}}$ Pyramid inches, or $\frac{3^7}{\pi^2}$ British = $\frac{7^2 8}{\sqrt{\pi}}$ Pyramid inches.

The numerical values can be as easily worked out with the larger numbers, but these last are interesting as the lowest in-

tegral expressions of the relation of the one "inch" to the other.

$$\begin{aligned}
 \text{Now } 18816 + \sqrt{\pi} &= 10615.791204034 + \\
 \text{And square root} &= 103.03296173572 + (\text{P}) \\
 324 + \pi &= 103.132403123548 - (\text{B}) \\
 \text{And B} + \text{P} &= 1.0009651415057 + \\
 \text{And P} + \text{B} &= 0.9990357889969 +
 \end{aligned}$$

or showing that the Pyramid inch is 1 — 1003.6th longer than the British. (Mr. Latimer's theorems gave 1 — 1031.32 (?); and Mr. Baxendell, at p. 345 of Vol. I. of the STANDARD, brings out, by another hypothesis, 1 — 989.2).

As the Pyramid inch is the 500-millionth of the earth's polar diameter, the length of the axis in "British inches" of the above value will be $500,482,570.75 = 41,706,880.9$ feet = 7899.03047 miles.

JAMES SIMPSON.

March 7, 1885.

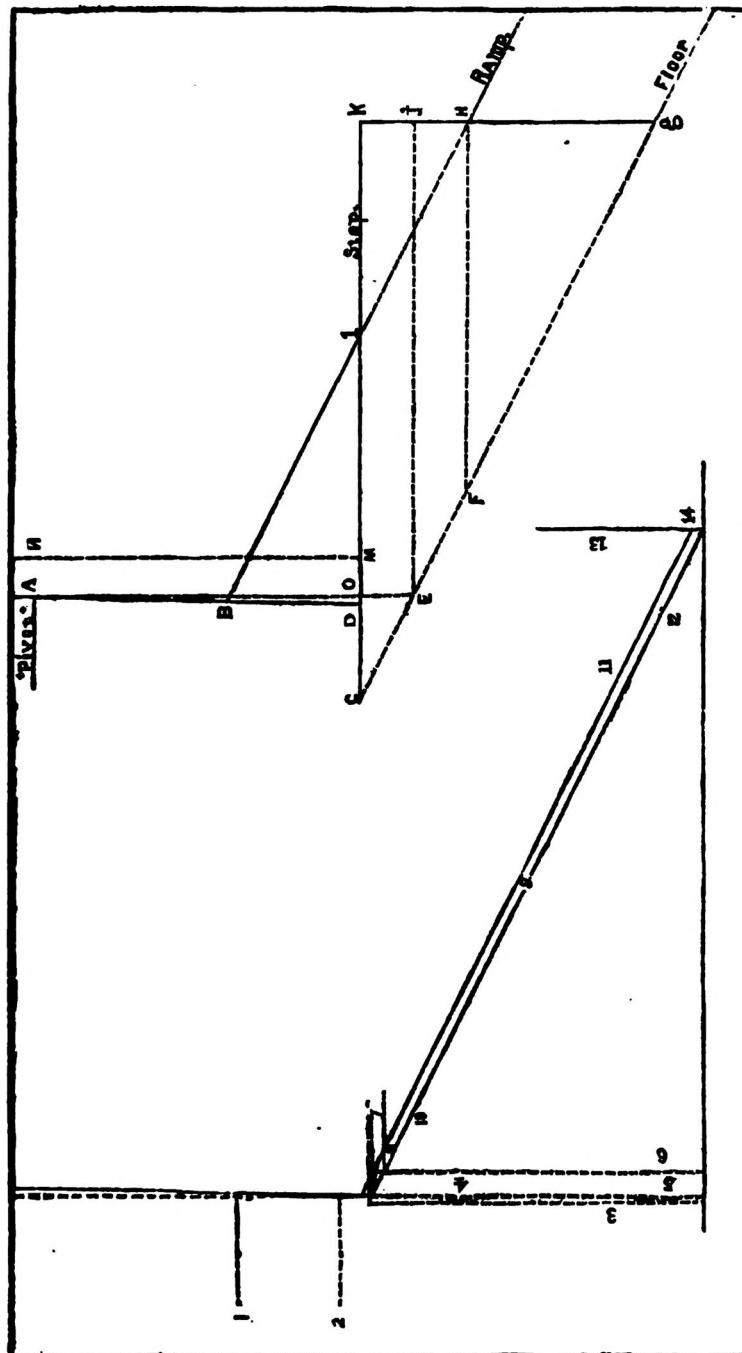
THE TWO WITNESSES: THE BIBLE, THE GREAT PYRAMID.

By R. Courtenay, Bombay Civil Service. Bombay, 1884.

Professor Piazzi Smyth has forwarded us a copy of this pamphlet, upon whose title page is indorsed in his handwriting, "A beginning only, but a splendid beginning. C. P. S."

The author of the pamphlet finds, in the dimensions of the grand gallery of the Great Pyramid, a record of lunar periods, and a repetition of the ominous 666 of prophecy. Then, counting a Pyramid inch for a year, he discovers the lines and intersections of lines which exactly mark the dates of the momentous events in history corresponding with the prophetic periods of Daniel's prophecy; also other lines which, reasoning from analogy, must indicate the termination of the unfulfilled periods of Daniel and Revelation. The author's claims are summed up by himself after this fashion:

"In the foregoing pages I have endeavored to keep as close as possible to actual measurements, and to alter them (even then only to the most trifling extent) only when they differed amongst themselves, and when the aid of theory had to be invoked to determine toward what precise quantity they all tended. With one solitary exception—that of the battle of Waterloo, which was absolutely required to serve as a fixed point in chronology—history has not influenced in the smallest degree the determination of any length or height or angle, and yet from the Pyramid has been evolved a long series of events, the most important in the history of the world since the beginning, more than two thousand five hundred years ago, of the Times of the Gentiles, viz: the era of Nabonassar, the fall of Nineveh, the union of the crowns of Media and Persia under Cyrus, the very day of the accession of Alexander the Great, the birth of our Blessed Lord, and his crucifixion, the birth of Mohammed, the taking of Jerusalem by Omar, the battle of



KEY TO DIAGRAM.

GRAND GALLERY.

- 1.—Whole height above step, $66.6'' \times 5 = 333''$.
- 2.—" Pivot " height, $66.6''$.
- 3.— $840''$ height of step.
- 4.— $833.333''$ to floor line.
- 5.— $826.85647'' = 28$ lunar months = height of ramp.
- 6.— $803.802755''$ height to foot of step.
- 7.— $6.666666'' \quad \{ 29.5305885'' \}$ $36.197255''$ full height of step.
- 8.—Floor line extended to level of ramp, $1866.1926''$.
- 9.— $1814.161616''$ to foot of step.
- 10.— 1895.8578 length of floor produced to level of step.
- 11.—Ramp.
- 12.— $26^\circ 18' 0''$.
- 13.—North end of Grand Gallery.
- 14.— $23.053728''$ height of ramp.

GREAT STEP.

- ab.* South wall of Grand Gallery impending 1° .
aoe. Perpendicular from pivot to floor produced.
mn. Perpendicular from south end of roof.
gk = $36.197255''$.
gj = $29.530588''$.
jk = $6.666666''$
gh = $23.053728''$.
ad = $66.6''$.
Angle of inclination of floor $26^\circ 18' 0''$
Angle *dao* about 1° , or sine of *dao* = $\frac{7}{66.6 \times 5}$.
do = $1.1666''$.
dk = $60.91726''$.
dm = $5.833''$.
mk = $55.08393''$.

Inclined height of south wall $66.6'' \times 5 = 333''$.

Floor from foot of Gallery to *g* dates June 18, 1815.—Battle of Waterloo.

Floor to *g* + *mk* dates July 18, 1870.—Infallibility of Pope proclaimed.

Floor to *c* dates February 27, 1897.—End of Times of the Gentiles.

Christian Era, A. D. 1, April 20, Friday.—Birth of our Saviour.

Crucifixion, A. D. 34, April 20, Friday.

Floor from foot of Gallery to *f* dates June 29, 1867.—Celebration at Rome of Eighteenth Centenary of Martyrdom of St. Peter.

Waterloo, the eighteenth centenary of the martyrdom of St. Peter, the fall of the Pope's temporal power and the proclamation of his infallibility.

"I have shown that the book of Daniel and the Great Pyramid are one, and that both point emphatically to 1897 as the termination of the Times of the Gentiles. Far be it from me to assert, that in that year 'the world will come to an end.' I look for that event to happen not before but after the millenium, and even then, when this world has been renovated and purified by fire, 'we, according to His promise, look for new heavens and a new earth wherein dwelleth righteousness.' But I do expect that in 1897 the Turks will have been expelled from Palestine."

This pamphlet from the antipodes, though short, (twenty-three pages), is evidently the result of deep study and research, and is well worthy of careful study by every student of the Great Pyramid and every advocate of the Anglo-Israel theory.

SYNOPSIS OF MR. COURTENAY'S THEORETICAL DIMENSIONS OF THE GRAND GALLERY (PYRAMID INCHES).

1. Height of step above the level of floor at entrance of gallery $= \frac{2520''}{3} = \frac{360 \times 7}{3}$ = number of days in $\frac{1}{3}$ of a "great year" = 840.
2. Height of produced floor plane at the point directly below the "pivot" point of south wall of gallery $= \frac{2500''}{3} = 833.333''$.
3. Difference of level between the latter point and the surface of step, 6.66".
4. Height from foot of step to the $833\frac{1}{3}''$ level of floor (2), $= 29.530588''$ = number of days in one lunar month.
5. Height, from base of gallery, of intersection of ramp with north face of step, $826.85647''$ = number of days in twenty-eight lunar months.
6. Angle of inclination of gallery floor, $26^\circ 18' 0''$.
7. South wall of gallery is "pivoted" from a point 66.6" above the step, and
8. It leans over at an angle whose sine $= \frac{7}{66.6 \times 6}$.

9. Height of south wall above step measured on the incline,
 $66.6'' \times 5 = 333''$.

10. Length of gallery floor up to foot of step, 1814.161616''. This is the author's starting point in chronology, for he takes this to denote June 18, 1815, the date of the battle of Waterloo.

11. Floor plane produced strikes the level of step at a distance from the foot of gallery, which would indicate the date February 27, 1897. This is taken to mark the end of the Times of the Gentiles. The beginning of the Times of the Gentiles dates back two thousand five hundred and twenty years from this, or 625 B. C., when Babylon rose to empire; and the "midst of the week" coincides with the historical date of the taking of Jerusalem by Omar, in A. D. 637.

J. H. Dow.

THE ARK OF THE COVENANT, THE PYRAMID AND FREEMASONRY.

"The Ark of the Covenant." Where is it? There have appeared in the columns of *The Messenger* several articles from the commencement, setting forth with a good show of probability that the Prophet Jeremiah brought the Ark of the Covenant with him from Jerusalem, which, no doubt, he did; but did he ever get further with it than the land of Egypt, or at the border thereof?" Jewish history fully agrees Jeremiah hid it somewhere.

We read in the volume of the Sacred Law, at the time of the Babylonian captivity, great clemency was shown to Jeremiah by the conquering hero, Nebuchadnezzar, and never was prophecy more literally enacted and fulfilled than when Jeremiah left Jerusalem, with the young and beautiful daughters of Zedekiah, and the treasures belonging to the temple, with many emblems most sacred to the children of Israel. I must, however, in a measure, take some exceptions to the received opinion of some, that the Ark of the Covenant will be found in the vaulted chambers of "Tara's mounds," county of Meath, in the north of Ireland. The whole province was renowned as a distinguished place. "The people of Ulster were more renowned and were distinct in race, religion and enterprise, and they were called Fir Bolgoes—that is, the 'Divine Felles.' Historians Tigermach and O'Flaherty say about the seventh century B. C. they were superior in architecture and wonderful in their skill and use of metals, tracing their skill and ability, wisdom and renown from the east, even among the Chaldeans, the Uhesdim, Uhesed, Trustworthy (or modern Freemasons). A part of the sixth and on through the fifth century B. C. "a great man appeared who virtually ruled Ulster, not as actual king, but the king had to acknowledge his authority." His name was Ollam Folla. He had a beautiful princess, Tea Tephi, with him from the east. Eochaid, the king, married her with great pomp and ceremony, changing the name of the domain where he lived, Lothain Croffin, to Tara, and by the ruling of Ollam Folla had the idolatry of the people changed to a pure worship, and in honor of Tea Tephi the renowned halls of Tara were built.

The conclusion, therefore, is, Jeremiah was the Ollam Folla, and he was the custodian of and brought many records and traditions with him of great value and priceless worth, with evidences of identity and renown, and many of them rest at Tara to this day, but that the Ark of the Covenant, the tables of the law and the tabernacle are buried or hid up there, in damp, vaulted chambers, subject to easy decay, I have considerable doubt. To make an assertion is one thing, but to give satisfactory proof to the contrary after the lapse of as many hundreds of years and history so obscure, is quite another thing.

I put forward an hypothesis last fall, to illustrate that the Ark of the Covenant was in the Pyramid, what position it occupied, and how it got there. I will now repeat what I then said, with still further evidences of a constructive character to give proof the Ark of the Covenant with its belongings was deposited in the Great Pyramid of Jeezeh in the land of Egypt. I will give good authority, if not proof direct, found in Macca-bees ii, 4-8. In the Apocrypha of the Sacred Law, if it lacks inspired authority it has weight, we read: "It was also contained in the same writing, that the prophet, being warned of God, commanded the tabernacle and the ark to go with him, as he went forth into the mountain where Moses climbed up and saw the heritage of God, and when Jeremy came thither, he found a hollow cave, wherein he laid the tabernacle and the ark and the

altar of incense, and so stopped the door. And some of those that followed him came to mark the way, but they could not find it, which, when Jeremy perceived, he blamed them, saying, as for that place, it shall be unknown until the time that God gather his people again together, and receive them in mercy. Then shall the Lord show them these things, and the glory of the Lord shall appear, and the cloud also, as it was shewed unto Moses."

There can be but little doubt that this quotation has reference to no other than the Pyramid side, his climbing up the mountain. It might well resemble a mountain to those who had only seen the hills or small mountains about Jerusalem, and at this time the Pyramid had been built about one thousand five hundred years, free from damp or mildew, or indeed anything that would suggest decay. Moreover, Jeremiah, acted under inspiration, and perceived the opening in the side; for up to this time it had been used for astronomical observations without doubt. Let that be as it may, little skill would be required—after depositing such things as were necessary and not wanted whether he was journeying—to fit a stone in the cave's mouth, as it was called, and so defy the search of the after-comers to find the place of concealment. Would it be as easy to stop the mouth of a cave in the side of what our conception would be of a rugged mountain, and so defy detecting the closed door? I think not.

If we review this Pyramid question fairly, and extend our researches to the many probable significations applicable to the inside construction of the passages and chambers, apart from the intricate calculations of time and space so elaborately worked out by Professor Piazzi Smyth, F. R. A. S., and astronomer royal for Scotland, in his work 'Our Inheritance in the Great Pyramid,' I say, apart from these abstruse calculations, we may then in bewilderment ask how was the bottom part of the grand gallery constructed to give the information of its removal, and that by removing the sloping slab forming part of the floor to grand gallery it did reveal the entrance passage to queen's chamber, and again the question will arise, why so constructed? Every part so far has a direct meaning in geographical, mathematical and other proportions, yet this removal did not interfere with these calculations; that it was so constructed no one having made it any study will doubt, and the removal of all parts indicated were taken clear away, according to the original design of the architect or builder, little or no damage was inflicted on the adjoining parts. It next involves the question, when did these operations take place? I contend the quotation referred to gives very striking evidence in the direction of Jeremiah's deportation from Jerusalem to Egypt, in which direction he went, and being inspired by the Great Architect of the universe, he would be directed to a place of safety, for at least the more bulky portions, such as would be required or necessary, until the return of his gathered or chosen people, but the less cumbersome he no doubt took with him to the end of his journey, the north of Ireland, "the Gates of the Sea;" and there without doubt whatever evidence of identification he had with him he would most sacredly find a place for them, of close and lasting concealment, "until the latter days when knowledge shall be increased."

If Tara's Mounds should have been opened five hundred, or two hundred and fifty, nay, only fifty years ago, the characters, or hieroglyphics, could not, in all probability, have been fully deciphered. Be that as it may, the time is not far distant when great corroborative evidence will be forthcoming, the sanction may be obtained from the owners of the land, with the government authority, when such explorations will be made, and such indisputable testimony will be brought to light as will astonish the world. Having then ocular demonstration, with profound solemnity and reverence will these hid treasures of the past be acknowledged, and they will be the great agency to cause atheism, with all other isms, entire collapse. These evidences of Holy Writ will make the most sceptical yield, stand at bay, and in awe of such proof admit the past history of our ancient tribes and peoples as recorded in Holy Writ.

In my humble opinion Tara's mounds will be the first move towards identity proof.

There is little doubt records will be found of such a nature as will open up the path for future development, the better for retracing the direction in which Jeremiah came to the shores of Ireland from the east, or the last place recorded of him in the land of Egypt, and there, in that land, will be unfolded the oracles of God and his dealings with his chosen people. The way is most marvelously opening before us by the stretched out arm of the Almighty, and his chosen people are the instruments in his hand to develop prophecy, which, when it has developed and become history, is discernible; and not until then can we poor, short-sighted mortals see what is our destiny. But we may look at that great mountain of stone and by its construction gain the information it teaches to the practical, operative man. There is much developed in the marked constructive formation of its several parts, showing very conclusively the position of the undiscovered chambers and what parts must be removed to arrive at their entrances, without in any instance marring the structural appearance of the original design. It could not be more adroitly constructed to give its own information, and I am fully convinced that Jeremiah climbed up the side of this mountain of stone and entered the Pyramid on the north side, then descended till he came to the junction of the first ascending passage, at which time a portcullis was constructed across, and in all probability facilitated a forward movement up the first ascending passage, the top of which gained, opens on to the grand gallery, at the foot of which he would halt on gaining an upright position. A consultation with his scribe, Baruch, and others with him would follow, thus moving and working under Divine influences, he would at once understand the sloping slab stone concealing the passageway to queen's chamber. When all was cleared away a straight passage would be gained for passing along the treasured oracles of Jehovah to an inner chamber elevated on the twenty-fifth course of masonry, which, after one thousand five hundred years, must have been free from all traces of damp, or any element to effect or promote decay. On entering the queen's chamber the deep recess in the east wall, called the niche, would not only be visible, but inviting to still further research in that direction. I am much inclined to think the table stone, and next one above, set far back, was not then in position, but ready prepared and placed aside for the purpose of forming a plug stone, after the treasures had been secured in a safe and sacred depository on the other side, when these plug stones could be worked in with struts and wedges from the opposite or west side; thus all would be secure till the appointed time for them to be brought forth, to accomplish which purpose construction most prominently presents itself of no ordinary character. Indeed, nothing short of inspired teaching could plan for the future and suggest to form a square hole on each side of the chamber, north and south walls, at such an elevation that a strong girder of iron could be inserted, and with proper appliances these plug stones could be mechanically drawn from their present positions without causing the slightest damage to adjoining parts. Some may say all this is chimerical. If it is, there is practical construction to confirm and lead up to every movement of the operative mason being complete being dispute.

Jeremiah would not extend his researches further than was necessary to prosecute the inspired designs entrusted to him, and would at once leave the dark recesses and have a stone fitted to the mouth of the pyramid "or cave," and when finished smooth with the outside surface would indeed be a question for the after-comers to cope with, and so it remained till the time of the forced hole of Caliph Al Mamoun, 820 A. D. Many have been the explorers since that time, particularly in the present or nineteenth century, most notable of whom is Professor Piazzi Smith, F. R. A. S., Astronomer Royal of Scotland, to whose work, "Our Inheritance in the Great Pyramid," the world is much indebted for its scientific erudition.

Let us now take another practical look inside, and closely trace and scrutinize the various parts made known to us by drawings and publications of most able writers and draughtsmen. We read that one hundred thousand men were employed twenty years

on the building of the Great Pyramid. We can, therefore, picture them swarming like bees inside and out, the nature and extent of the work admitting and requiring both should advance simultaneously where practicable; thus the drilling, boring, cleaning off and polishing all work below the surface level, could proceed with equal energy with all going on above. When, therefore, these operations were going on below, including the subterranean chamber, the men would work very compactly together and ventilation would become a great necessity, hence the "well," or air shaft, situated as near central as possible. Its form and position would indicate no small amount of engineering skill, and its use would be apparent and its continuation would exist even beyond the closing in of the stone covering of the ceiling or summit of grand gallery, at the top west side of which is left the same rough hewn hole, continuing some unknown distance among the cross stones over ceiling of king's chamber, all of which continuous ventilation was practically and positively required during construction to enable so vast a number of workmen to perform their allotted tasks throughout all the various passages and chambers, together with the immense quantity of material and plant.

We will next review the grand gallery with the ramp stones, and endeavor, in a practical and operative sense, to arrive at, or define, the constructive object of the socket holes and other parts now veiled in allegory, apart from the exquisite finish and mathematical proportions and time measurements, which are thus built into fact. I say again, apart from this calculation great skill and ability would be required to construct these overhanging side courses of stone, each stone being set in an oblique position, causing a strain on each overlapping course of stone as it progresses upward out of a perpendicular. To enable the operatives to construct with security, it would be necessary to frame strong trusses supported on stanchions and these set into the socket holes in the ramps, or sets-off, and secured to blocks in side holes (now filled in) to keep all rigid and secure from any unequal thrust on the incline. All these supports were, no doubt, so constructed to afford a clear passageway under, for the different operatives to pass and repass to the various localities in and about the works, at the same time not to obstruct ventilation. We are not aware how much constructive caution was necessary in this gallery, while we are ignorant of the formation or position of the other passages and chambers, the which we will try to examine and endeavor to trace, by their construction, the information they contain, and what was the intention of the original builders, and what they wished to make comprehensible when the set time should arrive when all would be made plain, and the words of the Prophet Jeremiah made manifest: "The great, the mighty God, the Lord of Hosts is his name. Great in council and mighty in work, . . . which has set signs and wonders in the land of Egypt, even unto this day. (*Jeremiah xxxii, 18-20.*)

On arriving at the top end of floor line to grand gallery we meet with an obstruction, this step stone, three feet high, and practically of no utility, and over which is the lowest and most inconvenient passageway thus far penetrated, we are led to ask why is progress impeded at this most important point, when it leads to such extensive measurement and detail; but on further examination and scrutiny through this low passageway, we stand in the anteroom, on a portion of the floor formed of hard granite, fitted and let down in its place between the additional thickness or side slabs that partly case in the walls of the antechamber, already set in position, it being so constructed that no difficulty would arise in again lifting it up. No doubt such was the intention of the Master Mason, its construction giving its own information, besides every facility being arranged for the undertaking. The grooves in the side slabs pass down below floor level, giving access for grappling irons attached to a strong iron bar, or a pair of sling chains could be fixed, and by the aid of the granite leaf and screw appliances, so raised as to be removed and disposed of by the workmen. My impression is under this stone will be found a cavity, the floor of which most likely will be found level with the bed of step stone. When this is removed, together with the stone under the granite leaf, a fair height will be ob-

tained to passageway from grand gallery to antechamber, which floor line may follow on to king's chamber. I have little hesitancy in saying that there will be a far greater extent of exploration visible at the upper end of grand gallery than was found at the bottom end, under the guidance and direction of Jeremiah. The next removal, according to progress so far made, will be the removal of the granite leaf, and here we may say are most remarkable construction and forethought. If the granite leaf had been constructed in one solid stone, it would not give out in such unmistakable terms its own information. As it is, it serves several important purposes, and when taken out it will still be a record of the sacred cubit, the fifth part of a cubit and the limit of our English measure, the inch. Previous, however, to raising and taking out this granite leaf or strut, between the side slabs keeping them in position, it may be necessary to put in temporary struts of timber in the other groves. Such a precaution may not be necessary. The slabs, however, casing side walls, will have to be brought forward in whole or in part. This effected will reveal the entrances to the long hidden, mysterious chambers. There can be no doubt, if construction goes to prove anything, and these displacements are effected with that freedom of spoliation that its several parts would indicate, the size of the antechamber would be increased materially, and, as far as we can foresee, nothing would be marred or displaced connected with the main structure. These excrescences being removed, much may be revealed; how much, it is not possible to say. But in view of the constructive parts, projections and obstructions, hinderances to locomotion when traversing the dark recesses from place to place, with those parts being separately formed, and placed, as it were, to cover some defect, or what would appear more rational, to conceal some secret formation in connection with the vast opportunity for some series of chambers most commodious in size. Again I might, in a structural point of view, make bold to assert there will be found a communication from the queen's chamber to those yet unexplored, thus a freedom of passageway and continuous circulation of air would be kept up for the craftsmen employed, which would not only facilitate passing to and fro, but would amount to almost a necessity when we consider the vast quantity of human beings breathing the same atmosphere in such close confined places, and having to perform their various handicraft, not only from day to day, but continuous from one year's end to the other, facing and polishing stone in all positions, that being a slow and tedious process under the most favorable circumstances, however, a continuous system of communication would be attended with great advantages, which are well known to those engaged on large and extensive works. The entrances to these communications, secretly closed, so far as we know, are hermatically sealed, the better for hid treasures; and if the oracles of God are concealed within, where, I ask, on the face of this terrestrial globe could any approximate receptuary be found alike for preservation and safety.

Proceeding on, but still guiding our reflections into the most intricate windings of this most remarkable and scientific of all superstructures, we are led by our reflections to enquire; and it would be no great surprise to find another and a more noble entrance in connection with the other chambers hitherto unexplored, and the outlet (as was the north side) concealed from view. This must be left, however, to considerable speculation, nothing of a structural character giving any evidence of such important design, but the mind is led to think where so much skill and ability is present, more commodious and less cramped portals would be the chief considerations and characteristic of such huge proportions, unless for small, compact chambers, hermetically sealed, with passages of like nature, intended for development in after ages, but hitherto veiled in allegory, yet illustrated by symbols of most astute learning, philosophical research and deeply matured plans. Some of these plans suggest as little space as possible, should be exposed to atmospheric contingencies after all was complete and the workmen discharged. A few congregated now inside, the atmosphere soon becomes oppressive, as most tourists and explorers can testify. I may then safely ask, how would it fare with near an army of men

inside, if ventilation had not been provided for from near the apex of the building, along grand gallery, down shaft by well's mouth to junction of subterranean chamber and foot of passage scheme as far as we know at present? And here another most important part of construction seems to present itself, and occurs in the incomplete subterranean chamber itself, and its uses.

It would be a practical question, where did the water supply come from to carry on such ponderous workings? Much water would be required for preparing and setting the stone. It therefore follows, in a practical sense, that the sinking down in the centre of the subterranean chamber was actually a well of water in those days. On the other hand, it could easily be kept full of water by a syphon pipe along the continuous sloping passage down to it. It being central would most accommodate all parts of the building with the least loss of time. But I think there was good reason to conclude there was a good supply of water at that depth in that distant age, percolating through the lower strata of rock, running from the fertile plains and rounding the edge of the rock on which the Pyramid stood, making its course toward the river Nile, and at the rising of the Nile a check to its course would be the consequence, and flooding the lower chamber would be the next result. Hence a stoppage of the work in that direction while in progress, while it enhanced the supply, which there is little doubt would be a periodical welcome, giving an opportune time for thorough washing off. Unless the reader has watched the operation of rubbing and polishing stone, no idea can be formed of the wet and sloppy performance, though in these days, in this age of chemistry, the surface may be softened and a large proportion of labor saved.

Apart from all other considerations, it will be seen that an early as well as ready supply of water would be in earnest request from the very earliest stage. Air and water would be the two principal elements first calculated on for the due performance of such gigantic proportions.

In this practical illustration of the Great Pyramid and its several parts, I trust I am not taking undue credit for misconceived ideas, or egotistical enough to suppose I am advancing any new phase of the Great Pyramid construction; nor in the remotest degree ignoring the great scientific existing realities. Far be from me any such intentions, but to show the dignified prescience while framing such gigantic proportions mathematically, geometrically and arithmetically, that a design so profound in wisdom and learning gave out the conclusion that those occupied or so engaged at the head of the works were actuated by divine inspiration. So, therefore, all is delineated with such precision that even the constructive wants, facilities, with comforts of the craftsmen were not lost sight of, considering all of which, my hypothesis only adds to the innumerable proofs and undeniable facts of the practical construction of its vast designs now exposed to the view of the beholder, with those yet to be explored.

When those portions are removed that we have indicated according to the designs of the original architect, who, while constructing those supplementary portions, well knew they would not be disturbed though many long ages of time, and not then until all the remarkable fixed purposes of number, weight and measure were fully tested and made known to the world, so that all may understand and acknowledge that none other than the Great Architect of the universe did conceive and cause to be built into fact such cosmic proportions. No one can assert these sacred truths and known designs on the part of the architect were accidental. Every part throughout the whole structure of which is known or unknown, has a definite place and proportion, with a fixed purpose in the general plan. I am dealing alone with practical construction, as far as my idea of practical construction in connection with this building is concerned.

Leaving the grand mathematical researches to more exalted and able minds, some of whom figure conspicuously in the United States of America, THE INTERNATIONAL STANDARD being a bi-monthly journal having for its contributors some of the most able

mathematicians known to science, I think enough has now been said in a practical point of view to enable those of us in any degree acquainted with the internal construction of the Great Pyramid to follow me into the chambers yet to be explored, and which I hope in due course will be opened and the hidden mysteries of nature and science brought to light. But however much we may feel we know in this, or, indeed, in any direction, it is as a myth compared to the will and intention of the designer of this "miniature world" in point of geodesic knowledge, and "stone Bible" in point of chronological order, and the ordained dispensation of our Heavenly Father, who has set and determined his purposes for all historical events, and when the appointed time arrives these unexplored chambers will be opened, and not before, by all the machinations it is in the power of mankind to put in force.

I hope on a future occasion to give the practical operative method of surveying and exploring those mysterious mounds at "Tara," in the county of Meath, North of Ireland, when Free-masonry will be the sequence to the programme.

THOMAS HOLLAND.

March 9, 1885.

LETTERS.

LETTER FROM C. PIAZZI SMYTH.

15, ROYAL TERRACE, EDINBURGH, March 19, 1885.

Here is a most unexceptionable piece of Pyramid encouragement. I wrote to Egypt to inquire about the origin and meaning of the time signalling at Alexandria for the meridian of the Great Pyramid, and I send you a copy of the answer just received from Mr. James Hewat, by profession an accountant there, but better known here as a son of the late Mr. John Hewat, a merchant who was the effective originator, twenty-five years ago, of the Edinburgh observatory's time gun signals, as an addition to its time-ball signal of the true time; and ever since then we have kept up these two signals every day, check and check upon each other, through independent electric loops from the observatory clock, corrected daily by star observations the previous night. Now, just read his answer with all its well condensed and useful information. Is not the Great Pyramid asserting itself in these latter days? And at the crossing place of all the great highways over the earth, the time is now announced to the nations from the meridian of the oldest architectural monument of all mankind, the greatest wonder of the seven wonders of the world in the days of the Greeks, and the only one of them still existing! But how the advantage of that torch for all men, through all time, will be lost—if some of our over-learned few proceed to make up a system of weights and measures for the Anglo-Saxon peoples of the present and *future* times when they are to govern the whole earth out of their own abstract thoughts only, acting in subservience to the new fashion in natural philosophy schools of talking of kinetics and energy—as a sort of natural power to bow down to—and yet bringing out the Pyramid units and standards of measure, though without acknowledgement. But as the Great Pyramid, we acknowledge God and his Christ, and we must not be ashamed of that confession in our whole walk and conversation in life, and least of all when we are dealing with time, space, matter, the subjects of His creation. In the last letter from my Indian correspondent he remarked, on hearing of the fall of Khartoum, "now you will see events (Prophecies of Daniel) march quickly." And how quickly, too, they have marched, with Russia already at the gates of India.

Yours very truly,
C. PIAZZI SMYTH.

TIME SIGNALLING IN EGYPT FOR THE MERIDIAN OF THE GREAT PYRAMID.

ALEXANDRIA, EGYPT, 10th March, 1885.

My Dear Sir: I was glad to receive your letter of 14th ultimo., and have pleasure in giving you the following further information which I have gathered in reference to the lately adopted keeping of Pyramid time in Egypt. It appears that the originator of the idea is Lieutenant-Colonel Ardagh, C. B. R. E., who is at present stationed in Cairo, and has been in this country since 1882, when the war began. I must here state for your information that the British military authorities have here and in Cairo a time-ball and a time-gun in each city, while the Egyptian government has the same. What Colonel Ardagh wanted was uniformity of time for all. His reasons for the adoption of Pyramid time in preference to the Khedivial Observatory at Abbassia are, that the Great Pyramid has been employed by the French scientific expedition last century (or rather the beginning of this)

as a meridian and also employed by R. E. Mahmood, Pacha, in his map of Egypt, and also because the Great Pyramid is the most enduring landmark in Egypt.

The actual observations of noon are taken at the Abbassiah Observatory by means of a transit instrument, and the meridian distance between the observatory and the Great Pyramid is calculated by observation and subtracted from the observatory time before the latter is signaled to Koom-el-Denas. At Koom-el-Nadura (Alexandria) the gun is fired and the time-ball hoisted 4' 58" before local time, the meridian distance between the time-ball at Koom-el-Nadura and the Great Pyramid being 4' 58". This has been adopted for the Egyptian railway and the telegraphic services. Colonel Ardagh further says the longitudes dependent on the transit of Venus stations are as follows:

| | Hour | Min. | Sec. |
|---------------------------------|------|------|-------|
| Signal Station, Alexandria..... | 1 | 59 | 38 96 |
| Great Pyramid..... | 2 | 4 | 31 6 |
| Abbassiah Observatory..... | 2 | 5 | 8 5 |

A telegraphic signal of mean noon meridian of Great Pyramid is sent to all stations from Abbassiah Observatory, which is 37" fast of Great Pyramid time.

I am indebted to Captain Bloomfield, R. N., controller of this port, for the foregoing information, which I hope you will find interesting and accurate. With you I quite agree that this country has been roughly handled by those who professed to protect it,

And I am yours, etc.,

JAMES HEWAT.

To Professor C. Piazzi Smyth, F. R. S. E., etc., etc., Edinburgh.

LETTER FROM J. P. WEE THEE.

MILLEFIELD, April 5, 1885.

The STANDARD of March, 1885, came to hand yesterday and its contents pretty well examined. You will please allow me to express my gratitude for the able and well written notice of the 'Coming Age.' I hope and trust that it will have an influence with your intelligent readers.

You will allow me to express myself freely on matters relative to the impending future. C. A. L. Totten's "Preface to the Study of Anglo-Saxon History," your article, "Unveiling of Isis" and the letters of C. Piazzi Smyth and Theodore Gribi have been very interesting—absorbing. I have read Hines, Wilson and others, relative to Anglo-Israel, and I do not hesitate to affirm that, except the advent of the Messiah, no subject can claim equal interest; and on that topic you will allow us to write, not that I can present anything new to you, but simply to give vent to a few thoughts that are pressing me for liberty of expression.

You are aware, perhaps, that I am writing a second work, "The Eastern Question in its Various National Phases," but are not informed as to its extent and peculiar features. It will be a book considerably larger than the "Coming Age," requiring a greater mental tax, since the plan of the work is somewhat new. I will now state, in a few brief words, what I have written, and what still remains.

(1). I have written the Egyptian phase, tracing its land and its population through all the periods of existence, to the future reign, pointing out God's mission with that people, past, present and future; and describing their position in the future conflict and reign.

(2). The British phase was then sketched. In doing this I went back on the track of that people into Northwestern Europe; then into Central Asia; and finally into Southwestern Asia, and showed their identity with the ten-tribed Israel; showed their past, present and future mission in re-establishing the Hebrew nation as king of the South.

(3). The Russian phase was then examined. The origin and history of the Russian are fully given ; his work and his adaptation to his work ; his European home minutely examined, and the divine intention in all his movements ; I traced his efforts to take Constantinople first from the Greeks, then from the Turks ; and stated the causes of his repeated failures ; and traced him in his present and future mission.

(4). I then examined the Ottoman phase of the Eastern question. That family was traced to its original seat in Central Asia, and their gradual progress south and westward, till they were established at Constantinople ; showed their special mission and the reasons why the holy places have been in their power for so many centuries ; showed their present and future mission.

(5). I then traced the Hebrew phase of the Eastern question. That family I traced from their origin through twelve epochs to their return, and reign under Messiah. I was particular to trace God's dealings and purpose relative to that people. This phase involves matters of great national interest ; I demonstrate that family to be the hub of Messiah's great nation wheel. The writing of the Hebrew phase has cost me great labor, both in reading and thought.

(6). I am now writing the last, or American phase. I have now written about one-half of this phase. I have traced this American family from Columbus to the administration of Washington. Though I have all of our great libraries open to me, such as our state and congressional libraries, still much that I want cannot be found, such as its divine prophetic history. I am now writing on the Great Seal. I got some information from the Congressional library, and have written for more ; also to Toronto, Ont. I search our State library. I have this to finish, also the preface and conclusion.

This book will involve all the great national issues of the day, and, therefore, cannot fail to command attention. My subjects are so vast, and the issues so overwhelming, that ordinary topics fail to interest me.

One great object of the book is to define the *true* Eastern Question ; or God's purpose in the Eastern movements now in progress. It is quite evident that Jehovah and the earthly monarchs have not the same views of the world's government. The monarchs of the East have their own selfish ends to carry out, while God is working for his own glory, and that of his Son, Messiah. Which will finally be victorious, the Bible most emphatically declares, your unveiling of Isis is a grand thought ; but I have to treat the growth, assimilation and the development of the new man of America, the Americanized Anglo-Saxon, in another way. I think that you will be satisfied with my positions. If I had Mr. Totten's idea of the seal it would help me, otherwise, I will get the facts and draw my own conclusions. If you can help in any way I shall be very thankful. Write me.

Yours,

J. P. WEETHEE.

LETTER FROM JAMES SIMPSON.

15 PALMERSTON ROAD, EDINBURGH, March 7, 1855.

I am deeply indebted to you and to the International Institute for sending me, from time to time, copies of the valuable STANDARD of your society and other printed and written communications bearing on metrology and kindred subjects. No student of Great Pyramid science in this country can afford to be ignorant of the important developments which it is receiving at the hands of our American cousins, especially as borne witness to in the pages of your bi-monthly STANDARD ; and that I may not lose the instruction to be had from its varied contents, I must ask you to be so good as enter me as a subscriber thereto.

It may be of some interest to you to know that a "Scottish Geographical Society" has been this winter inaugurated in Edinburgh, and I have much pleasure in sending you

herewith a copy of their first report and the opening number of 'The Scottish Geographical Magazine.'

The enclosed Pyramid notes relate to some matters which have already been discussed in your pages. Wishing you all prosperity, I remain,

Yours sincerely,

JAS. SIMPSON.

LETTER FROM JOSEPH BAXENDELL.

April 24, 1885.

The prophetical indications of the Great Pyramid have been abundantly borne out by the events of the last few years, and there can now be no doubt that the first arrival at the south end of the grand gallery occurred in the spring of 1880, as I pointed out in the *Banner of Israel*, when the great and unexpected change in the feelings and opinions of the people of this country took place, which led to the placing in power of a government whose blundering, incapacity and utter want of moral courage have well nigh ruined the country and led to disputes and complications with foreign countries which threaten to result in a general European and Asiatic war. If such a war should occur, it may indeed be regarded as "the great earthquake woe," and "the time of trouble such as there never was since there was a nation," referred to in the prophecies.

Yours very truly,

JOS. BAXENDELL.

LETTER FROM J. L. DAMPIER.

LONDON, ONT., April 8, 1885.

The "Unveiling of Isis" is as deeply interesting and absorbing in its subject, especially as regards Manasseh, as Dr. Sciss' work, "The Gospel in the Stars," which carries us back to the "In the Beginning," a beginning for us mortals beyond which we cannot penetrate. All the science of geology and the learning unto which man has exalted himself, ignoring the words "except ye become as little children," have not been able to shake my belief as regards that first chapter of Genesis. Proctor says no sane man could read "Anglo-Israel." I wonder where he would assign those holding the above opinion. Darwin, with his "Origin of Species," and Egypt, with her "Races of Men," the "ape" and "Ibis," are specimens of the art of deception which can be traced to the master of all deceitfulness, culminating especially in these latter days. This is certainly an age of digging up and of bringing to the light things that have been hidden. We all begin life with wondrous story books of giants, dwarfs, genii and fairies, the Seven Champions of Christendom, St. Michael and St. George encountering the Dragon or Satan, all ranking amongst the myths and having them no further bearing or meaning than the evanescent pleasures of an hour; but now in St. Michael and St. George the "Serpent and the Cross are plain." A symbol is a silent myth. What a solemn silence the Great Pyramid has kept from 270, B. C., until now. The Gospel in the Stars before the flood, the written word for this age, and the Great Pyramid a symbol of the whole. As we ascend the ladder of life we enter upon "Classical Mythology" and "Northern Mythology." The following was and is the opinion of the learned men of this age: "The heathen mythology not only was not true but was not even supported as true; it not only deserved no faith but it demanded none." After reading "The Gospel in the Stars" and "The Unveiling of Isis," this opinion must be very much softened down and the myths of our younger days have a far different meaning and appearance in this Saturday night of our

lives. Just as after a cloudy, dark day, at setting, the clouds lift and the sun flows in a stream of light over rock, mountain and valley, so in these, our latter days, a flood of light is being poured in upon us by divinely inspired men, as much so as those before or after the flood ; for such words as "Anglo-Israel" and the Pyramid would never have entered into the heart of man to have conceived, sought out or hunted after unless divinely led ; and further, being so intimately mixed up and interwoven in this written word that in many parts that word cannot be properly understood without a knowledge of these two subjects. The myths in "The Unveiling of Isis" fit as beautifully in their place and are equally truthfully applicable as the twelve signs of the Zodiac, and their accompanying decans portray the "Serpent and the Cross," the gospel in the "garnished" heavens, as Job calls them—those heavens in which appeared the "star" for the Magi. May we likewise see His star, fall down and worship. With regard to America, there is no doubt in my mind that it has been kept especially for Manasseh. We are "fifth monarchy" men, though not fanatics, as when they declared themselves in the time of Charles I. and Cromwell, they had hold of the true thread out of the Labyrinth, but blindness had happened unto them and they were before their time. But soon the "Stone Kingdom," Israel ten-tribed, shall appear, grinding the image to dust, and Ephraim and Manasseh shall be the chief amidst the thousands of Israel—our Saviour reigning in Jerusalem, the two sticks united, and His chosen people the *Kingdom of God on earth*, when a great and overpowering blaze of gospel light will be spread abroad. The gospel is proclaimed as a witness in every nation now ; this is one of the signs given to us by our Saviour. Let us watch and pray that we be not caught asleep without any oil. To those who believe and delight in recognizing the hand of God in history, I have no hesitation in saying that the men who have brought up and searched out the questions of "Anglo-Israel," the "Pyramid," and "Unveiling of Isis," must have been directed and led thereto by a power working in them unknown to themselves, not a deceivableness of wickedness by which, in the latter days, many will be made to believe a lie—for the above questions have led many a one to search the Scriptures, to whom, skeptical before, they were a closed book. I say a power unknown to themselves, not like the known presence seen and spoken with by the patriarchs of old, but an inward feeling had been engendered by constant, earnest, daily prayer for guidance—a perfect wrestle with the angel. "I will not let Thee go, unless Thou bless me." For God never changes ; He is the same now as then. One of the great sins of this age is the ignoring of God. He says he will be enquired of by the House of Israel. Are not the above questions deeply enquiring ones ? Have they ever turned anyone from the path of duty ? No, surely ; but, on the contrary, have been a light unto their paths and a guide unto their feet ; so that the very myths are crying out against those who will not hear His word ; against those who made use of these very myths and zodiacal signs, hoping to overturn the Christianity of the "In the Beginning;" but they dared not go back to that "In the Beginning" and prove who put those signs in the garnished heavens, for if they had the ground would have been swept from under their feet. In this age the very stones are speaking, the sands of the desert are upheaving and the myths of Greece and Rome are loudly proclaiming that which has been hidden for ages in their midst, so that there is nothing hidden which shall not be disclosed and proclaimed from the tops of the hills and mountains and from the house tops. It is only now we are beginning to understand Job, that "He would show thee the secrets of wisdom that they are double to that which is," and that "with the ancient is wisdom," viz.: primeval man. Our boasted civilization and society are but in their infancy ; pure Christianity can only bring them to their prime, and then only at the time of the millennium, when Christ reigns and Ephraim and Manasseh, with reclaimed Judah and Levi, are THE kingdom—"Thy Kingdom Come."

Yours truly,

J. L. DAMPIER.

LETTER FROM J. R. SKINNER.

110 BROADWAY, CINCINNATI, April 28, 1885.

You know that I think your *Isis* a strange production, and I confess I do not know how to pronounce upon it. I do believe in the great prophecies of the Bible, and feel more and more convinced that we, in our day, are in the midst of some of their greatest fulfillments—palpably so. As, for instance, as to the fall of the papacy and the waning of the Moslem power, as also the preparing the way for the kings of the East. Now much of this kind of prophecy was certainly astrological, for it was made to answer to times; but how I do not know. Very much of your work does seem to fit as to the working of our nation's work in this grand drama, viz.: ours of the New World—and does connect the germs of rise in the grand current of the stream, viz.: Huss and Luther—then Isabella, etc., etc. Your general mode is that which the Orientals observed. In looking into spiritual causes they recognized pertinent facts on earth as guides and land marks of the spiritual influences. I think if a man be an attentive observer of history and the workings of the nations, with a sincere view to arrive at conviction, he will after a time be amazed at the new kind of life and spiritual world into which he will find introduction; and this, I think is your experience. To me your articles have all the charm of ordinary romance intensified by the above consideration.

I have made very remarkable discoveries in what I may call the Grecian branch of the Hebrew Kabbalah, and it seems to explain to me what has been a puzzle, as to the unfolding or development of the Christian dispensation, which is full of Kabbalah from among the Jews, who hold it so. The fact is that this Kabbalah of which we have discovered the secret keys, was the "last" or "final" or "great" mystery of each nation. The origin was not among the Jews or Hebrews proper, but with the long anterior Semitic people, who landed from somewhere at the head of the Persian Gulf and at the head of the Red Sea. I think the first people were the same with the old Americans.

J. R. SKINNER.

LETTER FROM F. R. WINTER.

DEMERAY, March 9, 1885.

I have taken much interest in your paper on the Unveiling of Isis, and see now that it does approximate on Anglo-Israel belief, and trust that you will soon see that your interest in America is inherited through Mannasseh, and I have no doubt that Mr. Hine's visit will lead to a clearer understanding on this point, for he is undoubtedly well posted in the Scriptural arguments on the point, and he may possibly bring Mr. Wood's attention back to this part of the great subject to which he and you, among others, devote so much valuable time. And the Scriptural guidance which can be adduced will strongly back up the mathematical proofs which are so commonly brought forward.

I note your criticism of Mr. Feilden's work. I have again tried my hand at a correlation of his views with the division of time by Esdras, as I believe it to mean, and the Bible version of the creation so as to coincide with astronomy of the Pyramid measures, and I send you the result. I take my own chronology from the date of the birth of Adam and Isaac and if it be necessary to satisfy a much longer period than a jubilee of years, that longer period, may be deduced from the subterranean measures. But I think the point is overstrained, for after all what we have to deal with is contained in the Bible history of our first parent, and it may be doubted if any further knowledge of pre-Adamite man is necessary for us beyond what we read in Genesis, and if it were, will not the 10,800 from the creation of light, or its manifestation to our earth, cover the pre-Adamite ages, anent which no special revelation has been given to us. The above period is com-

prehended in and seems necessary to complete the revolution, or semi-revolution, of the known precession of the equinoxes as marked by the Pleiades year, 2170 B. C.

Hoping this may find you in the enjoyment of good health and full of energy to continue your work, which I firmly believe has God's blessing upon it,

Yours in faith,

F. R. WINTER.

'The Word, the World and the Branch'—J. Leyland Feildens' Periods of Creation.

12 cycles of 600 years = 1 day.

| | Years. | Days. | Cycles. | Years Anno Domini. |
|---|--------|---------|---------|--------------------|
| World created void and dark..... | 3,600 | 26 | 6 | ..... |
| Light created or diffused..... | 3,600 | 26 | 6 | ..... |
| ..... | ..... | 1 | 12 | 7,200 A. L. |
| Light diffused | 21,600 | 3 | 36 | 21,600 |
| Light—earth included in the solar system—first procession of the equinoxes | 3,600 | 26 | 6 | 3,600 |
| Fourth day from light..... | 28,800 | 4½ | 54 | 32,400 |
| Fifth day completed | 3,600 | ..... | ..... | ..... |
| Sixth day completed..... | 7,200 | =10,800 | 1½ | 10,800 |
| Adam's era—from light..... | 39,600 | 6 | 72 | 43,200 A. L. |
| Adam to Isaac—Pleiades year..... | 2,116 | ..... | ..... | 2,170 B. C. |
| Isaac to A. D. | 2,170 | ..... | ..... | ..... |
| A. D. to end of 6 cycles of 1,040 years..... | 1,954 | ..... | ..... | 6,240 |
| ..... | 45,840 | ..... | ..... | ..... |
| Millenial period | 1,000 | 1 | 12 | 7,200 |
| | | | | |
| Period of darkness. | 3,600 | 7 | 84 | 50,400 |
| ..... | 50,440 | ..... | ..... | ..... |

By the Pyramid chronology from Adam to A. D. is 4,286.

By J. L. F.'s chronology $4,004 + 21 = 4,025$.
Difference 261.

*10,800 from solar system in calendar year, thus:

7,200 18,000 is equal to 17,741 solar years. Difference 259.

LETTER FROM J. N. WING.

NEW YORK, April 7, 1885.

I confess that I am not equal to the comprehension of the astrological phase of your articles, yet it is all so fascinating that I wish I might know more of the vast subject. In this last I was pleased to read about the 'May Flower,' and the first meeting—the Suffolk Resolves. You had told me of your researches in that direction, so much of your article was a pleasant remembrance. You must know that I, from my infancy, as it were, have held to the idea of *individual responsibility*—that is, that we are not beings born to a certain fixed existence, but rather, that we can, by individual effort—from the innate consciousness of which we may be possessed from *natural causes*, inherited or otherwise—expand or contract irrespective of any supernatural agency. I find it hard to believe that my horoscope has been cast, and that I am guided

or led by the "star of my birth." It may be all so. I cannot say no. I trust that you will say with Tennyson :

There lives more faith in honest doubt, believe me,
Than in half the creeds.

I have not read Totten's article on "Anglo-Saxon History," but shall soon. That subject interests me greatly, and I intend to study it more. Not long ago I addressed the members of a little society, of which I am a member, on the subject of the "Lost Tribes," and I must say that I was surprised that only one person present had ever heard the subject treated as Mr. Hine deals with it.

We intend to stand by our guns, and keep the STANDARD floating.

Yours truly,

J. N. WING.

LETTER FROM C. PIAZZI SMYTH.

15 Royal Terrace, EDINBURGH, April 2, 1885.

Your March number of the STANDARD duly arrived, and a very good number it is. Good, also, the illustration, viz: the landscape birth-place of American United States liberty. Surely with that eventful scene before them, the sons of the heroes who figured there are not going to bow their necks to the yoke of French instead of their own weights and measures. Lieutenant Totten, in a recent letter, makes a magnificent remark thereon. He is grand and calm and Scriptural, and says he does not believe there is any danger of the French Metric system being made compulsory in the United States of America; and if there is a permissive regulation about it, it is merely akin to that other order given a long while ago, "let the wheat and the tares grow together until the harvest, and then"—. That harvest, he seems to think, may be much closer than many men expect. So, too, does my Indian friend, Mr. R. Courtenay, now to be addressed as Assistant Judge, Tanna, Bombay, a letter from whom arrived simultaneously with the other, and I send it on to you herewith, for I find it interesting and instructive from beginning to end. It is in a peculiarly original line, too, which will interfere with no one, but may light the way for many, and I remain

Yours very truly,

C. PIAZZI SMYTH.

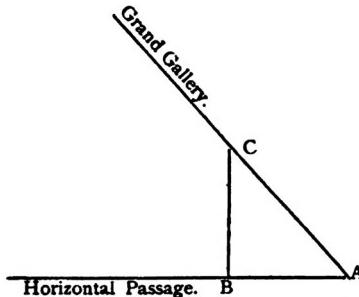
IMPORTANT LETTER FROM R. COURTENAY.

TANNA, BOMBAY PRESIDENCY, April 2, 1885.

To PROFESSOR C. PIAZZI SMYTH:

I have been obliged, in the interests of truth, to append a short postscript to my pamphlet. It is still in the press, so I shall not be able, I think, to send off thirty copies to you until next week. Considering the storm of persecution from which you have not even yet emerged, I can quite understand your feelings in regard to these new departures in Pyramid interpretation; but you have fulfilled my only desires, which are that they should not sink like water into sand, but should form stepping stones to other and greater discoveries. Many thanks for the pamphlet, and also for the January number of the INTERNATIONAL STANDARD. I should like to become a member of the Institute. I do not think they ought to put off much longer their expedition to the Pyramid. Egypt will probably witness many desperate battles before the end comes. They are allowing the present short opportunity to pass by.

I had no idea when I wrote my pamphlet in what a sea of controversy I would find myself. Doubt still rests on the angle of inclination of the gallery, but in any case the area of controversy has been much reduced by the Pyramid. If the angle be $26^\circ 17' 4''$, or less, then our Lord was born in the spring B. C. 1, and crucified in A. D. 33. If it lie between $26^\circ 17' 30''$ and $26^\circ 18' 0''$, then A. D. 34 must be the year of the crucifixion. It is strange how exactly this represents the present state of the controversy looked at merely from the Biblical and historical points of view. Many now contend, in opposition to the numerous and powerful arguments of Sir Isaac Newton, that B. C. 458, and not 457, was the seventh year of Artaxerxes, 490 years from 458 bring us to A. D. 33. Then looking at the day of the week and lunar month, fourteenth Nisan in 33 A. D. was a Friday, and fifteenth Nisan in A. D. 34 was also a Friday. The date of Waterloo will remain as a fixed point, and the change of a year in the date of the nativity would push forward the taking of Jerusalem by Omar only sixteen or seventeen days. I have been endeavoring lately to ascertain the exact angle of inclination of the gallery by calculating its effect on the numbers in the horizontal passage and the queen's chamber. I make use of a method which you unconsciously adopted at one place in 'Life and Work,' viz.: to consider the grand gallery the great chronological scale of this dispensation and to interpret numbers in the horizontal passage and queen's chamber by finding the corresponding lengths along the line of the gallery.



For example, instead of A B read A C; in other words, divide A B by cos. $26^\circ 18' 0''$.

I send you by this mail a little pamphlet, "The Flight into the Wilderness," which I brought out some years before my eyes had begun to be opened to the connection between the Pyramid and the Bible. You will find two dates:

260 A. D.

1260

1520 A. D.

Now, measuring along the grand gallery you found that the passage finally left it at 262.6 British inches from the north wall:

262.6
1260

1522.6=very length (given in 'Life and Work') of

passage. But this is a rough agreement. Such will probably not satisfy you. I, therefore, proceed to apply my method: Considering the roughness of the floor and its beginning, and that the passage is not quite horizontal, a little more latitude should be allowed to me than in the grand gallery. At the distance 1303.3 British inches (equals 1302 Pyramid inches) from the north wall there is a sudden descent. 1303 A. D. is a most unpromising date. Historians tell us of no remarkable event in that year. But now allow me to call it 1301.82 and find the corresponding length along the grand gallery. $1301.82 \div \cos. 26^\circ 18' 0'' = 1452.13$ =(counting from April 20, A. D. 1, and allowing for error caused by Julian

reckoning) May 29, 1453= date of taking of Constantinople by the Turks, leading to great diffusion of the knowledge of Greek over Europe, hence Erasmus' Greek Testament and hence the reformation :

Now length of horizontal passage to jamb in queen's chamber=1522.6 British inches.

1.5

1521.1 Pyramid in.

Allow me to call this 1520.8. $1520.8 + \cos. 26^\circ 18' 0'' = 1696.4$ =(counting from April 20, A. D. 1,) September 20, 1697.=date of peace of Ryswick=(vide 'Grattan Guinness' appendix page 655) 'End of Sanguinary Conflicts and Full Establishment of Civil and Religious Liberty in England.' With the peace of Ryswick ended religious wars in Europe. Not merely this, but Revelation xi, 14 connected this date with the termination of the Turkish woe. Now, on September 21, 1697, at Tenta (in the same "hour," i. e. "fortnight"), Prince Eugene annihilated the Turkish army. Since then the Turks have fought for bare existence. According to Revelation ix, 15, the woe lasted 1 year+1 month+1 day+1 hour=(365+30+1) years+16 days.

Battle of Tenta, 1697 September 21

395 14

1301 August 28

Now, according to Van Hammer, the great historian of the Turks, their first Sultan, Othman, made his first descent on the Byzantine empire—in fact the Turks commenced to be a predatory horde—in midsummer, 1301 A. D. —. Obviously in making such an investigation it is most desirable to have before you as many sets as possible of independent measures. In order to obtain Petrie's measures I ordered out his book from London, but I heard, after waiting several months, that it was out of print. If you think them worthy to be used as measures, I would be greatly obliged if you would copy out for me on a postal card his values of the (1) angle of inclination of the gallery, (2) the length of the horizontal passage, and (3) the length, (4) breadth, (5) height, and (6) and (7) diagonals of floor of the queen's chamber. I should like to hoist the engineer with his own petard.

I am

Yours very sincerely,

R. COURTENAY.

LETTER TO PROF. C. PIAZZI SMYTH FROM JAMES M. DURKEE.

PITTSFIELD, MASS., March 21, 1885.

Dear Sir: You will pardon me, a stranger, in the liberty I take of addressing you. I am reading and thinking your book, 'Our Inheritance in the Great Pyramid.' It has awakened in my mind a deep interest, and thoughts come like great billows from the ocean. I want to thank you for that book, although I am not an educated man, only a printer—once a poor boy—but for twenty-five years of business life the *Word of God* has been the *light of my pathway*, and I most firmly believe that "the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made."

I desire in this communication to call your particular attention to the remarks you make in regard to the "50th course and the total height of that structure," or 1,690 inches, and the level of the floor of the king's chamber." Does this have any connection with the date of the deluge, which is placed at 1,657. Are not the inches you give the true *line mark* of that wonderful event only 33 inches or years difference? Will you please notice this remarkable instance? And, second, the first course of the king's chamber is a "tenth part, nearly, taken off the height of the lower course by the manner of the introduction

of the floor!" does it not completely solve the mystery of the 10^2 *Ten patriarchs!* Noah, the *sooth* before, yet reckoned the *1st* after the flood! Does not this explain "the significant 5×5 , and 10×10 *100* stones, and can we not say whose "image and super-

The granite has particularly attracted my attention! the *symbolism* of which is generally understood when connected with 7. Finally, I believe this Great Pyramid to be the sym-
bolical witness of God "declaring the end from the beginning."

May I hope to hear from you in relation to the two points herein suggested, and may our kind heavenly Father, God of all, give you more wisdom and length of years to reveal his power.

Yours very truly,

JAMES M. DURKEE.

LETTER FROM S. BESWICK.

STRATHRAY, ONT., April 6, 1885.

Sir: Magazine came to hand rather late. This number has some interesting papers in it. The frontispiece of the birth-place of American Liberty is a valuable relic to be prized, and is an appropriate illustration for your article on "Isis," which (from its literary features) to my mind is one of the best, if not the best, paper published on that theme.

In regard to Mr. Wood's article on the E. N. E trench and the obliquity of the ecliptic, of course, I like the article, and its main drift accords with my own theory, but Mr. Wood's theory falls far short of the actual use and purpose of the E. N. E. trench. In an article of mine on pages 254-256 I have indicated a few of the features, as hinted at by Petrie himself, of the purpose and meaning of the trench. But the E. N. E. trench Petrie has missed its meaning altogether. Mr. Wood's theory that this trench was used as a "time indicator" of the variable obliquity of the ecliptic is a little exaggerated and inadmissible; because that theory would imply the long, continuous *usage* of the trench for centuries, and does not accord with the *blocking up* of the Pyramid passages and the entrances immediately the Pyramid was built. The three great trenches, no doubt, have an astronomical bearing on the work and design of the Pyramid. But that astronomical bearing and use would cease with the erection of the Pyramid, except in some subordinate sense, as a relic of what it had been. This objection would only apply to the case as a permanent institution, and as a sort of observatory. There can be no doubt that the basalt pavement, with the three trenches, was used as an observatory of a very high order of perfection during the work of constructing the Pyramid. But Mr. Wood's article is an admirable piece of close reasoning, and very scrupulously confined within the limits of known fact and established astronomical data.

I am glad to see the basalt pavement coming into prominence, because I believe that you will find that it is the true *level of the Pyramid's pavement*, as I have before intimated. These trenches furnish a demonstration that the pavement's level was 41.2529 inches. But I will take this matter up at some future time.

I read Professor Smith's letter with interest. I agree with him that Professor Rogers would do us an immense service if he would take a rod of black marble, or *flat ruler*, and put his microscopic scale upon it, as black marble is the least expansible from heat.

The extract from the consul's letter to the Secretary of State is very explicit and definite, and the restrictions are reasonable and even desirable, provided the Khedive will look well after the old walls, temples, etc., and stop the *native* from *despoiling* as well as the *foreigner*.

S. BESWICK.

LETTER FROM JAS. SIMPSON.

EDINBURGH, December 12, 1884.

My Dear Sir—I am sorry that in writing to you on Wednesday I was so forgetful as to omit reference to a small matter that has come under my notice, and may (I do not know) have some Great Pyramid significance.

The silver coin which our bank receives from the mint is put up and sealed in 400 bags of half-crowns, florins, shillings, etc., as the case may be, and each bag has a mint label bearing the weight in ounces and (as I conceive) hundredths of ounces. I enclose one of these labels and add a note of weights taken down from several others, from which it appears that the mean of all is (if the fractions are hundredths) 365.293 ounces Troy, as thus:

| | |
|--------------|--------|
| Florins, | 365.16 |
| Florins, | 365.10 |
| Florins, | 365.15 |
| Half Crowns, | 365.90 |
| Half Crowns, | 365.35 |
| Half Crowns, | 365.10 |

| | |
|---|-----|
| 6 | 176 |
|---|-----|

365.293

I am unable meanwhile to make a larger selection, but such as it is, it comes strangely near that fundamental Great Pyramid number, 365.24, and one cannot help thinking the coincidence is as little accidental as in the remarkable cases of the weights of the United States of America single coins. Judging even from the entries made above the weight, 365.90 would seem to be quite exceptionally high, and if it were omitted there would come out a mean of 365.172 only. It might therefore quite well be that the general mean would lie very close to 365.242.

Yours very sincerely,

JAS. SIMPSON.

PROFESSOR C. PIAZZI SMYTH,
15 Royal Terrace, Edinburgh.

THE GREAT PYRAMID.

Thou Word of God materialized in stone,
Sculptured programme of the Heavenly drama ;
When wilt thou manifest thy purpose here,
With zephyr-voice proclaim thy mission to the world ?

G. VOGLESANG.

TRANSACTIONS OF THE OHIO AUXILIARY SOCIETY OF THE INTERNATIONAL INSTITUTE.

MARCH 25, 1885.

Hugo Friedrichs, Gotha, Germany, and W. C. Jones, of Cleveland, were elected members.

A piece from the coffer of the king's chamber of the Great Pyramid was exhibited. It is of red granite, highly polished, and is similar in appearance to specimens from the Temple of the Sun at Heliopolis, Pompey's Pillar and Cleopatra's needle.

Letters were read from Rev. H. G. Wood, upon the Egyptian cubit preserved in the Turin Museum ; from Professor F. Hess, on the late eclipse ; from Rev. E. P. Ingersoll, on the identity of Israel with the Anglo-Saxons ; from Professor W. A. Rogers, on the standard yard bar, which he is making for the society ; from Professor A. Abbott, criticising Mr. Beswick's paper on "Metrology of Coins or Values." A paper by Mr. James Simpson of Edinburgh, Scotland, upon the "Pyramid and British Inches," was read.

A paper sent by Commander S. R. Franklin, of the National Observatory at Washington, was read. It contained communications concerning the proposed change in time for beginning the astronomical day. The conclusion of the department is that notwithstanding the fact that England has made the change beginning the astronomical day at midnight, corresponding to the civil date, the United States Naval Observatory will make no change until the ephemerides are constructed in accordance with the recommendation of the recent International Meridian Conference.

A pamphlet sent by Professor C. Piazzi Smyth, and written by Mr. R. Courtenay, of the Bombay civil service, was discussed. The work is entitled "The Two Witnesses—The Bible and the Great Pyramid."

A notice was given of a very interesting work which has lately appeared, confirming the theory of the late Abbé Moigno, a distinguished member of our Institute. It is entitled "The Store City of Pithon and the Route of the Exodus," by Edward Neville, of the Egyptian Exploring Fund. An interesting paper from H. W. Oswald, entitled "Ho, for Palestine," was also received and acknowledged.

APRIL 8, 1885.

In the absence of the president, Dr. Redfield occupied the chair. The members elected were George S. Gatchell, Buffalo, New York ; G. A. Kraft, Fredericktown, Ohio ; Dr. Joseph Mason, Jackson, Tennessee ; John H. Weldon, Kilmallock, Ireland, and James Simpson, Edinburgh, Scotland, life member.

Professor C. Piazzi Smyth wrote with reference to the adoption of Great Pyramid time by the Egyptian government. Letters were also received from Mr. James Simpson on "Coinage," from Professor A. Abbott and Mr. Eli Baldwin on "Ancient Coinage," from Mr. J. L. Dampier on "The Fulfillment of Prophecy," and from Mr. F. A. R. Winter on "Periods of Creation."

After discussion upon the Great Pyramid as a prime meridian for the world, the meeting adjourned for two weeks.

APRIL 22, 1885.

At the meeting Mr. Edward Hine was elected a life member. Letters were read from Professor C. Piazzi Smyth, James M. Durkee, S. E. Massey, J. L. Dampier, J. N. Wing, Alfred E. Watkins, William E. Brown, Henry Kellogg, Dr. E. M. Epstein, J. P. Weethee

N. F. Safford, Samuel Beswick, Professor I. N. Vail, Rev. J. Upjohn, W. K. McAllister, Jacob M. Clark, J. M. Goodwin.

Arrangements were made for the lecture of Mr. Edward Hine of London, the English apostle of the theory of the Anglo-Saxon race being identical with the lost ten tribes of Israel.

Mrs. A. M. Searles read a translation from the work of M. Lecointre, an engineer engaged by M. de Lesseps in the construction of the Suez canal, entitled "Campagne of Moses," throwing a new light upon the route of the Exodus and the actual point where it crossed the Red sea.

A very interesting paper, by J. Ralston Skinner, on "Hebrew Metrology," was read and illustrated on the blackboard by Mr. Latimer. An able review by Mr. Hess, in the *Dodge Chronicle*, of the INTERNATIONAL STANDARD was also read.

The meeting adjourned for two weeks.

MAY, 6, 1885.

The members elected were : Fred Bishop, Akron, Ohio ; John H. O'Mara, New Lisbon, Ohio ; George Leach, Riverside, California ; and Charles de Medici, New York. Communications were read from J. H. Weldon, Kilmallock, Ireland, on the "Reverse of the Seal of the United States;" from Joseph Baxendell, astronomer, England, on "The Prophetic Indications of the Great Pyramid as Exemplified by Recent Historical Events;" from Theodore Faber of Brooklyn, on his "Value of Pi;" from J. R. Skinner and Henry Pierrepont, and from Alfred E. Watkins, the engineer who proposes to explore the Pyramid by means of diamond drills.

The president acknowledged the receipt of a poem on the Great Pyramid by Mrs. Thomas Bassnett of Jacksonville, Florida, which will be read at a future meeting. A book entitled "Freemasonry from the Great Pyramid of Ancient Times" was also received from the author, Thomas Holland of London, England.

Mr. Latimer illustrated by blackboard diagrams a portion of the work of Mr. R. Courtenay, "The Two Witnesses—The Bible and the Great Pyramid."

In his introduction the author says: "During the rainy season of 1879 I was stationed at Alibag, a little town on the western seaboard of the Bombay presidency. The rain fell so constantly that there was no inducement to leave the house. The society of the station consisted of four Europeans. Under these circumstances I was led by a pamphlet I found on the collector's shelves to the study of the prophetic scriptures. The Bible forthwith became a new book to me; my eyes were opened to the coming glories of the Messiah's reign on earth, and from prophecies fulfilled to the letter in the past I learned to venerate the literal words of Scripture. In the following December I met at Lahore a gentleman, at once a Christian and ardent Freemason. He put into my hands "Our Inheritance in the Great Pyramid," with the earnest request that I would devote myself to the task of proving that the Great Pyramid is, in its prophetic portions, in perfect harmony with the book of Daniel and the Revelation of St. John. Many persons are under the impression that numbers may be manipulated to any extent, and made to prove anything; probably if they themselves made the attempt they would change their opinions. My experience certainly does not confirm their view. My discovery of the prophetic periods of Daniel was not made until many months had elapsed, and from July, 1880, until the later part of 1884 I was quite unable to effect any agreement between those periods and the chronological measures of the Pyramid. Often after covering pages with calculations have I cast them aside in utter dissatisfaction, and thought for the moment that this Great Pyramid was a mere will-o'-the-wisps to lure men into endless quagmires of unprofitable speculation. But lately a study of the measures most neglected, namely, of levels, has led me to the true solution." He then shows the correlation between various historical dates and events and the measures of the Pyramid. Upon these Mr. Latimer commented.

Mr. Edward Hine then gave a short address on the Identity. He congratulated the Institute on its existence and the work it was accomplishing. He said that he had no fear that the French metric system could ever be adopted by the Anglo-Saxon race. The fact that they were Israel rendered it impossible. The perfect and just weight and measure were only given to one people on the face of the earth, and the possession of those weights and measures by our race was one proof of our identity with Israel. But one proof was not sufficient, and the speaker pointed out many facts showing the identity of the race. He believed the separation of America from England was a fulfillment of prophecy, and stated that he thought there must be a mark to testify to that separation in the Pyramid.

At the conclusion of the address a vote of thanks was tendered to Mr. Hine for his instructive remarks. The thanks of the Society were also given to the Cleveland Choral Society for their kindness in rendering several fine selections from oratorios at Mr. Hine's lecture in the Tabernacle. The meeting then adjourned for two weeks.

EDITORIAL NOTES.

Able papers from Professor Asahel Abbott, Rev. James Upjohn, Dr. Watson Quinby, Mr. F. Hess, Rev. E. P. Ingersoll, Mr. W. E. Bond and others are held over for a future issue.

Our thanks are due Mr. Samuel C. Goodsell, of Westville, Connecticut, for copies of his pamphlet, entitled 'A Book of Stubborn Facts. Trigonometrical Science, as viewed from a Practical Standpoint.' The work is dedicated to the International Institute for the Preservation of Anglo-Saxon Weights and Measures.

We must again apologize to our readers for the delay in the appearance of the Magazine. It is due to a casualty in the printing office. We trust that no one will think on account of the late issue that publication may be suspended. We intend "to keep the STANDARD floating." We have to contend with many difficulties, and we trust that all our friends will help us, if it is in their power, with money; if they cannot assist pecuniarily, that they will endeavor to interest others and increase our circulation.

We desire to call the attention of our readers to the work in this city of Mr. Edward Hine, the English lecturer on the subject of the Identity of the Anglo-Saxons with the lost ten tribes of Israel. Mr. Hine is the author of a book called 'The Forty-seven Identifications,' which has had a very large circulation. He has twice lectured in the Tabernacle to large and attentive audiences, and also in many of the churches of the city and in several private houses. He has succeeded in awaking a deep and growing interest in his theory.

"The Unveiling of Isis" will be published as a book as soon as a publisher can be selected. It will be illustrated by a number of planispheres and other engravings. It will contain twice the amount of matter already published, giving special details and explanations and throwing light upon the mysteries of heathen mythology and primeval astronomy, showing especially their connection with the history of our country and our race, or the Anglo-Saxons. This book will be published in the interests of the International Institute, and we trust that our members will send in subscriptions so that the work may be forwarded.

We have received from Mr. Alfred E. Watkins, a mechanical engineer of New York city, a prospectus of a proposed expedition into Egypt to thoroughly explore the Great Pyramid of Gizeh, by means of the diamond drill. It is proposed to fully equip a party of engineers for a stay of several months at the seat of operations. These engineers, in addition to the usual outfit provided for such expeditions, will be furnished with a diamond rock boring drill and compressor, a small steam boiler and appurtenances, suitable pumping apparatus and an electro-dynamo. Mr. Watkins considers that thirty-five thousand dollars will be necessary to meet the expenses of the undertaking. It has been thought best to raise this amount by subscription, dividing it into shares of thirty-five dollars each.

We have received a communication from a very earnest member of our Institue, stating that in the opinion of the writer some of the views set forth in the "Unveiling of Isis" are blasphemous. We sincerely regret that the religious sentiments of anyone should have been wounded. We approached the subject with reverence and with an earnest desire to uphold the truths of Scripture, and we believed that in the myths of the ancient world would be found a confirmation of those truths. We trust that when our work is completed and our design fully manifested that any who may have felt offended will see that what we have written will not tend to destroy, but to strengthen faith and reverence.

REVIEWS.

We desire to call the attention of our readers specially to the work of Mr. R. Courtenay of Bombay, India, entitled 'The Two Witnesses—The Bible, the Great Pyramid,' of which Mr. Dow has given a short synopsis in the present number of the Magazine. Professor Smyth says of the book: "It is a beginning only, but a splendid beginning." It is remarkable that Mr. Courtenay should have verified one grand date in the history of our race, probably the turning point in the history of the Anglo-Saxons, namely, the date of the battle of Waterloo, represented by the foot of the great step, or 1814+ for the beginning of the grand gallery. This was the time of the overthrow of that monarch who may be called the Apollyon of Revelation, he who went out conquering and to conquer, the first monarch who ever put his name to a decree authorizing the French metric system, and with sword in one hand and that balance in the other, went forth to overthrow the armies of Israel, and was defeated, exiled and imprisoned at St. Helena, by the people whom he hoped to conquer and give them his false measure. The attention of Pyramid students should be directed to the verification of this particular date, after which the rest may be comparatively easy.

We wish to acknowledge the receipt of a remarkable book called 'Freemasonry from the Great Pyramid of Ancient Times,' by Thomas Holland of London, England. It is illustrated by a number of engravings of the Pyramid remarkably well executed. Mr. Holland has written this work for the purpose of proving to his brother Masons the value of the Great Pyramid. He says: "Viewing the past history and traditions of Freemasonry, together with the signs, symbols, allegories and scientific teaching, illustrated by and compared with the sacred writings, on which the whole of our ceremonies are based, we

are at once led to acknowledge there is something of reverential awe in its deep researches and hidden mysteries, which from time immemorial have been passed along for our instruction and guidance throughout every age and country, from the great seat of learning and wisdom, tracing back to the land of Media among the Chaldees."

The writer of this review is not a Freemason, nor has he any prejudices against Freemasonry. He believes that it has in its keeping important secrets concealed from the time of the beginning of the order to the present time, which is the time of the sea giving up its dead, and that the grand secret which it possesses has come down to bless the whole human race. He has, then, no prejudice against the order of Freemasonry, but he has no admiration for men who join that order as time-servers, or position seekers, as men have sometimes joined the church. An esoteric Mason is a deep student of all the mysteries, and especially of those that are divine. An exoteric Mason is one of whom the apostle says, "They are not all Israel that are of Israel," but occupy the outer courts, and probably many will never enter the holy of holies. Our study of Freemasonry has given us an insight which enables us to say this in its defence, but there is as much need of an Ingersoll in that order as there is in the church to overthrow shams. Mr. Holland's book will tend to uplift the Freemasons' work and take it back to its true origin, for Bunsen says that the Pyramid was called *AOR*, which is light, and in ancient times Freemasons were called the Sons of *Light*. And now has come the time when the secret of the order, which even the most esoteric Mason of the day does not understand, shall be revealed. Mr. Holland has made a grand beginning, and we heartily recommend the book to all of our members.

The book is printed by R. Folkard & Son, 22 Devonshire street, Queen Square, London, W. C., England. It may be ordered by Cobb, Andrews & Co. or by Burrows Bros. & Co., Euclid avenue, Cleveland, Ohio.

THE RESTITUTION, issued weekly by the Christian Publishing Association, Plymouth, Indiana. Terms, two dollars per year, payable in advance.

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These books investigate the numerical values of names in the Hebrew Scriptures; they are companion volumes, price one dollar each. They will be sent postage paid by remitting the price to Rev. James A. Upjohn, Neenah, Wisconsin.

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The Messenger—A weekly journal devoted to the elucidation of prophecy and the identification of the British nation with the house of Israel, God's chosen people, his inheritance. Edited by Annis Unwin, 84 Oxford street, Sheffield, England, and published by John Heywood, 11 Paternoster buildings, London, E. C., England. Yearly subscription, 10s. 10d.

The Banner of Israel—A weekly paper advocating the identity. Edited by Philo Israel and printed by Robert Banks & Son, Racquet court, Fleet street, London, E. C., England. Annual subscription for one copy weekly, including twelve double numbers, post free, 7s. 6d.

Israel's Hope and Destiny—This magazine, which has been published for five years as a monthly, will henceforth appear as a quarterly. It advocates the identification of the Anglo-Saxon race with the house of Israel. The editor is Douglas A. Onslow, J. P.; publisher, Robert Banks, Racquet court, Fleet street, London, England.

**MONTHLY RECEIPTS FROM SUBSCRIBERS TO THE
INTERNATIONAL STANDARD FROM MARCH 15TH
TO MAY 19TH.**

March—J. G. M. Hursch, \$2.00; Rev. E. P. Ingersoll, 35 cents; Thomas Bassett, \$5.00; Mrs. S. R. Prentiss, \$2.00; Thomas E. Douglass, \$2.00; Hugo Friedrichs, \$2.50; George S. Gatchell, \$2.00; Mr. Gass, 37 cents; James Simpson, \$24.22; D. W. Gage, \$2.00; G. A. Kraft, \$2.00; F. A. R. Winter, \$7.50; J. H. Weldon, \$3.00; George V. Watson, \$3.00; George Kellogg, \$5.00; total, \$62.44.

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On the seventh inst. we received two dollars in an envelope bearing the New York post mark but no further indication of its donor. As the omission of the name was probably a mistake, we will be obliged if any one who has sent his dues without receiving an acknowledgment will inform the secretary.

ERRATA.

Errata in STANDARD for January, 1885:

p. 629, line 18, for "moon's" *read* earth's.

p. 630, line 12, for "C sharp" *read* C.

p. 621, line 9 from below, for "H. E. Dibdier" *read* H. E. Dibdin.

INTERNATIONAL STANDARD. March, 1885. Article, "Earth's Radius," etc.

p. 49, at top: The cubits are correctly stated, but the 10 and 12 inch feet should be read *approximately* only. A mistake of the writer.

p. 49, 14th line from bottom, for "hue" *read* line.

p. 40, 8th line from bottom; and p. 41, 3d line from bottom, for "dimensions" *read* dimension.

p. 42, 3d line from bottom; p. 43, 2d line from top; p. 46, close of article; and in note at end, in the circular algorithm,

$\frac{1}{24 \times 10^n}$ or $\frac{1}{6 \times 60^n}$, n is to be read as an *exponent* of 10 or 60, as the case may be.

TO THE MECHANICS OF AMERICA.

We desire to reach your ears and enlist your interests in a subject which concerns every man, woman and child in the nation, and in which you have more at stake than any other class. You construct the buildings, bridges and machinery; in fact, all the works in the country, great or small.

A power has been at work for many years, silently and insidiously, to overthrow the weights and measures that you employ in the construction of everything that interests you and gives you occupation. The men who are instigating this are doing your thinking for you. They assume that your intelligence is insufficient to enable you to choose for yourselves the measures that you will use, and hence they are now petitioning Congress to set aside the system of measurement that your forefathers have used time out of mind, and to force upon you a foreign one of which you know nothing. The man who fails to use his ballot when his influence and assistance are necessary is not a good citizen, and the man who neglects to inform himself upon a subject which concerns his most vital interests, and who, through indifference, permits Congress to take away his hereditary weights and measures and to put a foreign system into his hands, is not a good citizen.

A bill was brought before the last Congress for the purpose of making the French metric system compulsory after March, 1889. Members of Congress, as a rule, are indifferent on this subject and are liable to pass the bill. If you have never investigated this matter, which so vitally concerns you, will you not now awake from your lethargy and determine that no member of Congress in the district in which you live shall have the power to change the usages of your forefathers?

If we could see that Congress had the right to make the change, and understood the true nature and derivation of that which they propose to enforce, as well as the superior value and origin of that which they may give up, then we could afford to leave it in their hands. But the majority are not instructed on this subject, and it is essential that they should be.

We claim that the Anglo-Saxon system of weights and measures is an heirloom descending to us from the remotest generations of the past; a heritage of God and divinely preserved for us, as shown in the indestructible monument in the land of Egypt—the Great Pyramid of Jeezeh.

We beg you to study this subject, and to this end we ask you to subscribe for this Magazine, which investigates the origin and value of our hereditary system of weights and measures.